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March 2003

Draft Supplemental Environmental Impact Statement

Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan; National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl

Western Oregon and Washington; and Northwestern California

United States Department of Agriculture	Forest Service	R-6	OR/WA	Bureau of Land Management	United States Department of Interior

File Code: 2630(FS) / 1736 PFP(BLM)(OR935) Date: March 2003

Draft Supplemental Environmental Impact Statement
For Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan; National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl

Dear Reviewer:

The Forest Service and Bureau of Land Management propose to amend selected portions of the Aquatic Conservation Strategy (part of the Northwest Forest Plan) to clarify guidance intended to protect and restore watersheds. This amendment is needed because projects intended to achieve Northwest Forest Plan goals have been delayed or stopped due to misapplication of certain passages in the Aquatic Conservation Strategy.

Two alternatives are considered in this Draft Supplemental Environmental Impact Statement (DSEIS). No Action and Proposed Action. No Action would not change existing language within the Aquatic Conservation Strategy. The Proposed Action would make limited changes to clarify how the agencies are to design projects to follow the Aquatic Conservation Strategy. The Proposed Action is the Preferred Alternative.

This DSEIS supplements the Northwest Forest Plan Final SEIS. It is not intended to replace or reconsider the plan as a whole, but focuses on specific passages within the Aquatic Conservation Strategy.

The Forest Service and Bureau of Land Management are soliciting comments on the DSEIS. Comments should be specific and address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3). Comments will be accepted via mail, fax and email (see SDEIS abstract for addresses).

All written and electronic comments, including names and street addresses of respondents, will be available for public review and may be published as part of the Final EIS. If you wish to withhold your name or address from public review, or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comments. Such requests will be honored to the extent allowed by law. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety. Anonymous comments are accepted.

For more information on the SEIS, contact Joyce Casey at 503-326-2430 or jcasey01@fs.fed.us. For copies of the Northwest Forest Plan Record of Decision contact, Dick Carkin, USDA Forest Service, at 503-808-2267 or dcarkin@fs.fed.us

Sincerely,

/s/ Linda Goodman

LINDA GOODMAN
Regional Forester, Region 6
Forest Service

/s/ Elaine M. Brong

ELAINE M. BRONG
State Director, Oregon/Washington
Bureau of Land Management

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For Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan; National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl

Western Oregon and Washington; and Northwestern California

Lead Agencies: U.S. Department of Agriculture, Forest Service
U.S. Department of the Interior, Bureau of Land Management

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Gale Norton, Secretary of the Interior

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Abstract: The Secretaries of Agriculture and the Interior propose limited changes to language within the Aquatic Conservation Strategy, part of the Northwest Forest Plan. Projects needed to achieve Northwest Forest Plan goals have been delayed or stopped due to misapplication of certain passages in the Aquatic Conservation Strategy. The Secretaries are responding to the underlying need to follow Northwest Forest Plan principles and achieve its goals. Two alternatives are considered in this Draft Supplemental Environmental Impact Statement, No Action and Proposed Action. No Action would not change existing language within the Aquatic Conservation Strategy. The Proposed Action would make limited changes to clarify how the agencies should design projects to follow the Aquatic Conservation Strategy. The Proposed Action is the Preferred Alternative.

Send Comments to: ACS EIS
P.O. Box 221090
Salt Lake City, UT 84122-1090
Fax: (801) 517-1014 *Please address fax to ACS EIS*
Email: acs_comments@fs.fed.us

Comments must be postmarked by July 10, 2003.

Reviewers should provide their comments during the DEIS review period so that the agencies may respond to all comments at one time and to use information acquired in the preparation of the final environmental impact statement, thus avoiding undue delay in the decision-making process. Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers' position and contentions. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement. *City of Angoon v. Hodel (9th Circuit, 1986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980).* Comments on the draft environmental impact statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

Notice

Readers should note that the Secretary of Agriculture and the Secretary of the Interior are the responsible officials for this proposed action. Therefore, no administrative review ("appeal") through the Forest Service will be available on the Record of Decision under 36 CFR 217, and no administrative review ("protest") through the Bureau of Land Management will be available on the Record of Decision under 43 CFR 1610.5-2. Because there is no administrative review of the decision, the Record of Decision will not be signed until 30 days after the Notice of Availability for the Final SEIS appears in the Federal Register (see 40 CFR 1506.10(b)).

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SUMMARY

The Secretaries of Agriculture and the Interior propose limited changes to language within the Aquatic Conservation Strategy (ACS). The ACS is an integral part of the Northwest Forest Plan. The ACS is intended to maintain and restore the ecological health of watersheds and aquatic ecosystems within the Northwest Forest Plan area. The ACS includes language that has been interpreted to establish an expectation that is nearly impossible for some projects to meet. These interpretations hinder Federal land managers' ability to plan and implement projects needed to achieve Northwest Forest Plan goals. The Proposed Action would amend the Northwest Forest Plan to clarify that:

- The proper scales for Federal land managers to evaluate progress toward achievement of the ACS objectives are the watershed and broader scales.

- No single project should be expected to achieve all ACS objectives.

- Decision makers must design projects to follow the ACS. Project records must contain evidence that projects comply with relevant standards and guidelines in Sections C and D of Attachment A in the Northwest Forest Plan Record of Decision. Project records must also demonstrate how the decision maker used relevant information from applicable watershed analysis to provide context for the design and assessment of the project.

- References to ACS objectives in the standards and guidelines in Sections C and D do not require that decision makers find that site-scale projects, in themselves, will fully attain ACS objectives.

The Proposed Action would retain all existing components of the Aquatic Conservation Strategy, including Riparian Reserves, Key Watersheds, watershed analysis and watershed restoration. It would reinforce concepts about appropriate scales of analysis and the role of standards and guidelines. It would remove the expectation that all projects must achieve all ACS objectives, and would reinforce the role of watershed analysis in providing context for actions that may affect aquatic or riparian habitat.

Ultimately, the Proposed Action would improve agency success in implementing projects that meet Northwest Forest Plan goals. The Proposed Action would not result in environmental impacts beyond those already disclosed in the Northwest Forest Plan Final Supplemental Environmental Impact Statement.

CHAPTER 1. PURPOSE OF AND NEED FOR ACTION

Introduction

The Secretaries of Agriculture and the Interior propose limited changes to language in National Forest Land and Resource Management Plans and Bureau of Land Management Resource Management Plans within the Northwest Forest Plan area (see Figure 1) to clarify the Aquatic Conservation Strategy within these plans.

In 1994, the Secretaries of Agriculture and the Interior signed the Northwest Forest Plan, which amended agency management plans as part of the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl.* The 1994 Record of Decision resulted in 29 amended management plans; however agencies continue to refer to the overall strategy as the Northwest Forest Plan.

The Aquatic Conservation Strategy (ACS) is an integral part of the Northwest Forest Plan. The ACS was developed to maintain and restore the ecological health of watersheds and aquatic ecosystems within public lands. The ACS includes language that has been interpreted to set up an expectation that is nearly impossible for some projects to meet. These interpretations hinder Federal land managers' ability to plan and implement projects needed to achieve Northwest Forest Plan goals. The Secretaries of Agriculture and the Interior proposed to amend the Northwest Forest Plan to clarify how projects should be designed to follow the ACS.

The Forest Service (FS) and Bureau of Land Management (BLM) prepared this Draft Supplemental Environmental Impact Statement (SEIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and state laws and regulations. The FS and BLM are also referred to as "the agencies." An Interagency Interdisciplinary Team (IDT) was chartered to evaluate the potential effects of the proposed amendment (see List of Preparers).

In this document, Land and Resource Management Plans for National Forests and Resource Management Plans for BLM Districts are collectively referred to as "Resource Management Plans." The area affected by the proposed amendments is referred to as the Northwest Forest Plan area.

This SEIS supplements information in the Northwest Forest Plan Record of Decision and Final SEIS. It is not intended to re-evaluate decisions or effects analysis in the Northwest Forest Plan or the information provided by 1993 Forest Ecosystem Management Analysis Team (FEMAT) report.

Figure 1. Northwest Forest Plan Area

Purpose and Need

Need

The Northwest Forest Plan includes the following principles (on Page 3 of the 1994 Record of Decision):

- "...to protect the long-term health of our forests, our wildlife and our waterways ..."
- "Where sound management policies can preserve the health of forest land, timber sales should go forward."
- "...to produce a predictable and sustainable level of timber sales...that will not degrade or destroy the environment."

The goal of the Aquatic Conservation Strategy is stated in several places, including Page B-9 of the Northwest Forest Plan Record of Decision:

- "to maintain and restore the ecological health of watersheds and the aquatic ecosystems within them."

Projects needed to achieve Northwest Forest Plan goals have been delayed or stopped due to misapplication of certain passages in the Aquatic Conservation Strategy. The ACS has been interpreted to mean that every project must achieve all ACS objectives at all spatial and temporal scales. This interpretation suggests land managers must demonstrate that a project will maintain existing conditions (or lead to improved conditions) at every spatial and temporal scale. Any project that may result in site-level disturbance to aquatic or riparian habitat, no matter how localized or short-term, could be precluded under this interpretation. This interpretation establishes a nearly impossible expectation for demonstrating that projects follow the ACS.

With this SEIS, the agencies are responding to the need for achievement of Northwest Forest Plan goals, to the extent that current wording of the ACS hinders the agencies' ability to do so.

Types of projects most likely to be stopped or delayed because of misapplication of the ACS include:

- **Watershed restoration**: transportation system treatments, culvert removal and replacement, restoration silviculture in Riparian Reserves, stream enhancement projects

- **Vegetation management**: timber management, harvest and sales, timber stand improvement projects, fuels reduction projects[1]

These projects may be stopped or delayed because they may result in short term, site-scale effects to aquatic or riparian habitats. Even projects designed to restore aquatic and riparian habitat in the long-term can result in short-term adverse effects.

The current wording of the ACS has influenced litigation regarding the Endangered Species Act. The U.S. District Court in the Western District of Washington interpreted the Northwest Forest Plan as requiring that, "not only must the ACS objectives be met at the watershed scale…each project must also be consistent with ACS objectives, i.e. it must maintain the existing condition or move it within the range of natural variability." Pacific Coast Federation of Fishermen's Association v. National Marine Fisheries Service, 71 F. Supp.2d 1063, 1069 (W.D. Wash. 1999).[2]

The U.S. District Court ruled (in this case and a subsequent case) that the Northwest Forest Plan programmatic biological opinion met the standards of the Endangered Species Act, but that 24 project-level biological opinions did not adequately demonstrate that projects follow the ACS. The U.S. District Court ruled that NMFS had an independent obligation to ensure ACS consistency because it was used as a surrogate for jeopardy analysis[3]. The U.S. District Court said that NFMS:

- failed to demonstrate that projects included in biological opinions were consistent with ACS objectives at all scales
- inadequately addressed site-specific and aggregated effects of timber sales
- inadequately addressed short-term adverse effects from timber sales
- ignored the best available scientific information due to a failure to demonstrate the use of watershed analysis and its recommendations
- failed to show that actions proposed within Riparian Reserves would result in benefits to aquatic habitats and ecosystems as required by the Northwest Forest Plan.

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[1] There is considerable overlap between these types of projects, i.e. timber sales that also reduce fuels and improve timber stands and transportation system treatments that include culvert replacement. The agencies chose to focus on vegetation management and watershed restoration because these are most specific to Northwest Forest Plan principles described in the Purpose and Need.

[2] This case will hereby be referred to as PCFFA v. NMFS. This part of the ruling was affirmed in 253 F. 3d 1137 (9th Cir. 2001). See Appendix A for full text of the ruling. NMFS is now known as National Oceanic and Atmospheric Administration (NOAA) Fisheries.

[3] Jeopardy analysis refers to a determination that programs or projects will not jeopardize the continued existence of a species listed as threatened or endangered, or proposed for listing under the Endangered Species Act. Jeopardy analysis was at issue in PCFFA v. NMFS.

The U.S. District Court in PCFFA v. NMFS allowed some watershed restoration projects to proceed, even though they were covered by a biological opinion invalidated by the court. Timber sales under the same biological opinions were not allowed to proceed, even though in many cases, the action that caused the adverse effect were restoration components attached to timber sale activities (such as a culvert replacement on a timber sale haul route). This led to further agency confusion about application of the ACS at the site scale.

NMFS (NOAA Fisheries) has not issued any biological opinions covering timber sales in the Northwest Forest Plan area since 1999. At least 100 million board feet of timber across the Northwest Forest Plan area cannot be sold because biological opinions covering the projects are currently enjoined as a result of the PCFFA v. NMFS lawsuits.[4]

Northwest Forest Plan goals addressed by the sales include: maintaining forest health, producing a sustainable supply of wood products, and restoring watershed health. The timber sales covered by the invalidated biological opinions minimized construction of roads and included associated projects such as decommissioning roads, and upgrading culverts. Trees were to be directionally felled away from the Riparian Reserves. Ground-based yarding and prescribed burning were to be timed to avoid harmful impacts.

As a result of the design features and mitigation measures, the sales were characterized as having minimal impact on anadromous fish habitat. The most common impact noted was a transitory increase in stream sedimentation and/or short-term, localized sedimentation from road-related activities, especially activities that would have been restorative in the long term that directly affect streams and riparian areas in the short-term, such as culvert replacement, road decommissioning, skid trail obliteration and road maintenance. The current wording of the ACS has been interpreted to preclude timber sales such as these that may result in minimal impact to aquatic and riparian habitat.

[4] Specific sales are currently the subject of PCFFA v. NMFS settlement negotiations; no final agreement as to the sales has been reached.

While the court decisions regarding the ACS have been confined to projects in areas with listed fish species, several new lawsuits have recently been filed against projects outside of areas with listed fish[5]. These complaints allege that proposed projects do not follow the ACS because they do not maintain the existing riparian and aquatic condition at every scale, and thus violate requirements that projects comply with Resource Management Plans under the Federal Land and Policy Management Act (FLPMA) and the National Forest Management Act (NFMA). Initial rulings on these complaints are anticipated later in 2003.

Sources of ambiguity within the ACS include passages within the Northwest Forest Plan Record of Decision, Attachment A, Appendix B, Pages B-9 and B-10. These passages need to be amended to clarify that:

- The proper scales for Federal land managers to evaluate progress toward achievement of the ACS objectives are the watershed and broader scales.

- No single project should be expected to achieve all ACS objectives.

- Decision makers must design projects to follow the ACS. Project records must contain evidence that projects comply with relevant standards and guidelines in Sections C and D of Attachment A in the Northwest Forest Plan Record of Decision. Project records must also demonstrate how the decision maker used relevant information from applicable watershed analysis to provide context for the design and assessment of the project.

- References to ACS objectives in the standards and guidelines in Sections C and D do not require that decision makers find that site-scale projects, in themselves, will fully attain ACS objectives.

The Northwest Forest Plan contains additional paragraphs in Attachment A that imply the term "standards and guidelines" includes all elements of Attachment A. The Northwest Forest Plan includes multiple references to standards and guidelines and their role in relationship to the ACS. The Northwest Forest Plan Final SEIS, Page B-83 states:

> "Implementing the ACS requires applying the standards and guidelines...within the context of the...ACS objectives."

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[5] BARK, et al. v. Gary Larsen et al. U.S D.C. District Court of Oregon, Civil No. 02-904-HU, filed July 2002; Headwaters and ONRC Fund v. United States Forest Service ; U.S D.C. District Court of Oregon, Civil No. 02-1519-JO, filed November 2002; and Klamath-Siskiyou Wildlands Center v. BLM U.S.D.C. District Court of Oregon, Civil No. 03-3006-CO, filed January 2003.

The Final SEIS also states, on Page F-166:

> "The Aquatic Conservation Strategy objectives do not meet the definition of standards and guidelines..."

An amendment is needed to clarify the proper role of standards and guidelines in Sections C and D of Attachment A in the Northwest Forest Plan Record of Decision.

Purpose

The purpose of the Proposed Action is to improve agency success in planning and implementing projects that follow Northwest Forest Plan principles, including a predictable and sustainable timber supply. Northwest Forest Plan goals cannot be achieved without project implementation.

The Decision

The Secretaries of Agriculture and the Interior are the decision-makers for this SEIS. They will decide whether or not to amend the ACS portions of Resource Management Plans within the Northwest Forest Plan area. Their decision will be based on which alternative is most conducive to agency success in implementing projects that follow the principles of the Northwest Forest Plan and contribute to achieving its goals.

Documenting this analysis in an EIS is not intended to imply that there are significant effects as a result of this amendment. An EIS was chosen as the vehicle to consider the language change so that all interested or affected people are provided opportunity to review and comment on the Proposed Action.

Public Involvement

Comments were solicited from the public, government agencies, and agency staffs through the following:

- Notice of Intent (NOI) published in the Federal Register on November 25, 2002.
- Scoping letters sent to 2,800 concerned parties, including Indian tribes, through the Northwest Forest Plan mailing list between December 17, 2002 and January 14, 2003.
- On January 15, 2003 the scoping period was extended to February 3, 2003 to ensure that all interested parties were provided adequate time to comment.

More than 400 letters, faxes, and e-mails (collectively referred to as scoping comments) were received from a wide variety of parties including environmental organizations, industry associations, local governments, individuals, and two Inter-tribal fish commissions. Scoping comments covered a wide array of interests. Further discussion about scoping and issues is in Appendix C. All scoping comments were reviewed by the IDT.

Several common themes were identified in the comments. Several commenters suggested the ACS is not "broken" and does not need to be fixed. They expressed concern that proposed changes to the ACS could modify the intent of the watershed analysis as it relates to the planning process. Some commenters thought the replacement language was confusing and should be changed. Several commenters were concerned that there was inadequate information to support the Purpose and Need statement.

The Proposed Action was modified to respond to these comments. The role of watershed analysis was emphasized. The replacement language was clarified and expanded to cover ambiguities identified in the comments. The Purpose and Need was reinforced with additional information. Appendix A provides further background to support the Purpose and Need.

Many groups and individuals expressed concern that the proposed amendment would undermine the ACS and result in environmental degradation. The agencies considered the physical, biological and socio-economic effects of the Proposed Action and No Action. Effects are discussed in Chapter 3&4. The scope of the effects analysis is narrow and must be reviewed in the context of the Northwest Forest Plan. The Proposed Action does not seek to change the intent of the ACS or Northwest Forest Plan, or its expected outcomes. The agencies will continue to comply with all applicable federal laws.

Some of the letters supported the proposed amendment, pointing out that the expectations associated with timber production have not been met in the eight years since the Northwest Forest Plan was adopted. They wanted to make sure the effects analysis considered that the actual amount of ground disturbance has been far less than predicted for the Northwest Forest Plan. The effects analysis in Chapter 3&4 considers the rate of logging on Federal lands within the Northwest Forest Plan area since 1994.

Some people suggested that new information, such as disturbance events (droughts, floods, fires) that have occurred since 1994, new listings under the Endangered Species Act and Clean Water Act, and monitoring information be considered in the analysis. These elements are discussed in Chapter 3&4 and in the Appendices.

Some commenters suggested that references to ACS objectives should be removed from the standards and guidelines to acknowledge that projects should not be expected to achieve all ACS objectives at all scales. Language was added to the Proposed Action to clarify that references to ACS objectives in the standards and guidelines are not intended to imply that decision makers are required to demonstrate that all projects achieve all ACS objectives at all scales.

Several alternatives to the Proposed Action were suggested in the comments. These alternatives were considered but eliminated from detailed study. They are discussed in Chapter 2.

CHAPTER 2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

This chapter describes and compares the alternatives considered in detail. It also discloses additional alternatives considered but eliminated from detailed study, and provides rationale for their dismissal.

Alternatives Considered in Detail

No Action

Under the No Action alternative, the current wording of the ACS would not be modified. Land managers would continue to plan projects to meet the goals of the Northwest Forest Plan but would encounter difficulty demonstrating that projects that may result in short-term disturbance to aquatic or riparian habitat "maintain the existing condition". Under the No Action alternative, agencies would be subject to continued interpretations that they may only plan projects that achieve all ACS objectives at all spatial and temporal scales.

Proposed Action

The Secretaries of Agriculture and the Interior propose to amend the ACS portions of the Resource Management Plans within the Northwest Forest Plan area. Under the amendment, land managers would continue to be required to design projects to comply with applicable standards and guidelines in Sections C and D of Attachment A in the Record of Decision. The amendment would require land managers to document how applicable watershed analysis was used to provide context for the design and site-specific assessment of a project. No additional site-scale determinations regarding attainment of ACS objectives would be required.

The Proposed Action does not change the goals of the 1994 Northwest Forest Plan Record of Decision. All components of the ACS (Riparian Reserves, Key Watersheds, watershed analysis and watershed restoration) remain in place.

The Proposed Action emphasizes a concept from FEMAT Chapter V and the Northwest Forest Plan Record of Decision, Page B-12:

> "Standards and guidelines prohibit and regulate activities in Riparian Reserves that retard or prevent attainment of Aquatic Conservation Strategy objectives."

The Proposed Action also clarifies that information in watershed analysis will be used in planning and decision making, but is not a decision-making process in and of itself. This principle is emphasized in the Northwest Forest Plan Record of Decision, the Final SEIS, and the 1995 *Federal Guide for Watershed Analysis.*

No Action and Proposed Action language are displayed in Figure 2. The Proposed Action language is different than language presented in the Notice of Intent to Prepare an EIS. It was revised to respond to some of the comments received during scoping (see Appendix C for further information about scoping responses). The revised language better addresses specific ambiguities within the current wording.

All of the proposed amendments are to language in Attachment A of the 1994 Northwest Forest Plan. As an amendment to the Resource Management Plans in the Northwest Forest Plan area, the Proposed Action would not approve any individual projects. Individual projects are subject to site-specific analysis required by NEPA and other laws, policy and regulations.

Figure 2. Comparison of No Action and Proposed Action Wording

NWFP ROD Excerpt	No Action (Existing)	Proposed Action
Page A-6, Paragraph 3	Designated areas, matrix and Key Watersheds all have specific management direction regarding how these lands are to be managed, including actions that are prohibited and descriptions of the conditions that should occur there. This management direction is known as "standards and guidelines" – the rules and limits governing actions, and the principles specifying the environmental conditions or levels to be achieved and maintained. Although the direction in all sections of this document constitutes standards and guidelines, standards and guidelines specific to particular land allocation categories, or relative to specific types of management activities, are included in Section C of these standards and guidelines.	Deleted

NWFP ROD Excerpt	No Action (Existing)	Proposed Action
Page B-9, Paragraph 5	Any species –specific strategy aimed at defining explicit standards for habitat elements must strive to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. This approach seeks to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds. Because it is based on natural disturbance processes, it may take decades, possibly more than a century, to accomplish all of its objectives. Some improvements in aquatic ecosystems, however, can be expected in 10 to 20 years.	Any species –specific strategy aimed at defining explicit standards for habitat elements must strive to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. This approach seeks to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds. Because it is based on natural disturbance processes, it may take decades, possibly more than a century, to accomplish all of its objectives. Some improvements in aquatic ecosystems, however, can be expected in 10 to 20 years. The baseline from which to assess maintaining or restoring the condition is developed through a watershed analysis. Improvement means restoring biological and physical processes within their ranges of natural variability.

NWFP ROD Excerpt	No Action (Existing)	Proposed Action
Page B-9 Paragraph 6 to Page B-10 Paragraph 1	The important phrases in these standards and guidelines are "meet Aquatic Conservation Strategy objectives, "does not retard or prevent attainment of Aquatic Conservation Strategy objectives, and "attain Aquatic Conservation Strategy objectives." These phrases, couple with the phrase "maintain and restore" within each of the Aquatic Conservation Strategy objectives define the context for agency review and implementation of management activities. Complying with the Aquatic Conservation Strategy objectives means that an agency must manage the riparian-dependent resources to maintain the existing condition or implement actions to restore conditions. The baseline from which to assess maintaining and restoring the condition is developed through a watershed analysis. Improvement relates to restoring biological and physical processes within their range of natural variability.	Deleted

NWFP ROD Excerpt	No Action (Existing)	Proposed Action
Page B-10, Paragraph 2	The standards and guidelines are designed to focus the review of proposed and certain existing projects to determine compatibility with the Aquatic Conservation Strategy objectives. The standards and guidelines focus on "meeting" and "not preventing attainment" of Aquatic Conservation Strategy objectives. The intent is to ensure that a decision maker must find that the proposed management activity is consistent with the Aquatic Conservation Strategy objectives. The decision maker will use the results of watershed analysis to support the finding. In order to make the finding that a project or management action "meets" or "does not prevent attainment of" the Aquatic Conservation Strategy objectives, the analysis must include a description of the existing condition, a description of the range of natural variability of the important physical and biological components of a given watershed, and how the proposed project or management action maintains the existing condition or moves it within the range of natural variability. Management actions that do not maintain the existing condition or lead to improved conditions in the long term would not "meet" the intent of the Aquatic Conservation Strategy and thus, should not be implemented.	The four components of the Aquatic Conservation Strategy (Riparian Reserves, Key Watersheds, watershed analysis, and watershed restoration), in combination with application of pertinent standards and guidelines, are expected to maintain and restore ecosystem health at watershed and broader scales. By itself, no site-scale project can, or should be expected to fully achieve ACS objectives. These objectives are intended to be met over time at watershed and broader scales. Monitoring results will help managers evaluate progress toward achievement of ACS objectives. To follow the ACS at the site-scale, decision makers must demonstrate that projects comply with standards and guidelines in Sections C and D. The project record will demonstrate how the agency used relevant information from applicable watershed analysis to provide context for the design and site-specific assessment of the project, recognizing that watershed analysis is not a decision-making process in and of itself. References to ACS objectives in the standards and guidelines in Sections C and D do not require that decision makers find that site-scale projects, in themselves, will fully attain ACS objectives.

NWFP ROD Excerpt	No Action (Existing)	Proposed Action
Page C-1, Paragraph 1	Although the direction in all sections of this document constitutes standards and guidelines, standards and guidelines specific to particular land allocation categories, or relative to specific types of management activities, are included (or referenced) in this section, Section C, of these standards and guidelines.	Deleted
Page C-2, insert after Existing Paragraph 2	No text	Some standards and guidelines refer to attaining, being consistent with, meeting, or achieving ACS objectives. The intent of these references is that projects will use relevant information from applicable watershed analysis to provide context for project planning. These references do not mean that decision makers must find that a site-scale project, by itself, will fully attain ACS objectives.

Resource Management Plans Amended By the Proposed Action

All Resource Management Plans for Forest Service and BLM administrative units within the Northwest Forest Plan area would be amended under the Proposed Action. Management of the Coquille Forest would also be affected.

The Proposed Action would not result in a significant change to any Resource Management Plan, nor would it alter their objectives or multiple-use goals. The Proposed Action would not adjust management area boundaries.

Bureau of Land Management

Adoption of the Proposed Action would be consistent with 43 CFR 1610.5-5. The Proposed Action would amend the Resource Management Plans for the Salem, Eugene, Roseburg, Medford, and Coos Bay districts in Oregon; the Klamath Falls Resource Area of the Lakeview District, also in Oregon; and the Arcata, Redding, and Ukiah field offices in California. The King Range National Conservation Area Management Plan in the Arcata Field Office would also be amended.

Forest Service

Adoption of the Proposed Action would amend of the National Forest Land and Resource Management Plans for the Gifford Pinchot, Olympic, Mt. Baker-Snoqualmie, Okanogan, and Wenatchee National Forests in Washington and the Mt. Hood, Willamette, Umpqua, Siuslaw, Siskiyou, Rogue River, Deschutes, and Winema National Forests in Oregon, all in the Pacific Northwest Region, and the Six Rivers, Klamath, Lassen, Mendocino, Modoc, and Shasta-Trinity National Forests in the Pacific Southwest Region.

Coquille Forest

The Proposed Action would affect management of the Coquille Forest. These lands are owned by the Coquille Indian Tribe, are part of the Coquille Indian Reservation, and are held in trust by the United States. An Act of Congress in 1996 transferred ownership of about 5,400 acres of federal land within the Northwest Forest plan to the Coquille Indian Tribe. The Act required that Coquille Forest comply with the adjacent Coos Bay BLM District Resource Management Plans. The Coquille Forest would be affected by this proposed amendment to the Coos Bay BLM Resource Management Plan.

Assumptions Common to Both Alternatives

Conclusions regarding the environmental consequences of the alternatives are based on specific species information, information about the landscape, and assumptions regarding management actions. Information and assumptions common to both alternatives are:

- Both alternatives retain all land allocation decisions from the Northwest Forest Plan.
- All components of the Aquatic Conservation Strategy would be maintained, including Riparian Reserve standards and guidelines, watershed analysis, watershed restoration, and Key Watersheds. ACS objectives remain unchanged.

- NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) are developing new approaches to consultation that do not rely on the ACS as a surrogate for Endangered Species Act jeopardy analysis. The new approaches would be applied to programmatic consultation under both alternatives.

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). The range of alternatives considered in detail is limited by the requirement to fulfill the Purpose and Need for Action.

All of the alternatives considered by the interdisciplinary team, except No Action and the Proposed Action, were eliminated from detailed study. The Need for Action substantially limits the range of reasonable alternatives available for analysis and provides a relatively narrow scope for this action. Several commenters recommended different wording to meet the same needs as the Proposed Action. An infinite number of wording combinations are possible; the current version of the Proposed Action was precisely drafted. Additional alternatives would not help the Secretaries of Agriculture and the Interior evaluate whether or not to amend to ACS to meet the Purpose and Need. The Record of Decision can provide additional clarifications if needed.

No Cutting or Removal of Trees Older Than 80 Years

The Oregon Natural Resources Council and several other groups and individuals suggested an alternative that would not allow cutting or removal of all trees aged 80 years or older. With a few exceptions, all land allocations and standards and guidelines of the Northwest Forest Plan would remain in effect. Fuel reduction activities in fire-dependent forests may be allowed when the primary objective is ecological restoration. Pre-disturbance surveys would not be required for restoration projects in stands less than 80 years old. Pre-disturbance surveys would still be required for fuel reduction projects that substantially modify stands more than 80 years old. Pre-disturbance surveys would be conducted for Survey and Manage and Protection Buffer species listed in the 1994 Northwest Forest Plan Record of Decision. Strategic surveys would continue. This alternative would not make any changes in the Aquatic Conservation Strategy.

This alternative was eliminated from detailed study because it does not respond to the Need for Action. It does not suggest an alternative way to clarify language in the ACS, nor does it respond to the underlying need to follow Northwest Forest Plan principles. This alternative would be similar to Alternative 1 in the Northwest Forest Plan Final

SEIS, which was not selected for implementation. This SEIS is not intended, nor required, to re-examine the overall strategy of the Northwest Forest Plan.

Analyze Additional Proposals Under A Single EIS

Some commenters suggested that the agencies analyze concurrent proposals in a single EIS. The comments specifically mentioned that the Survey and Manage Supplemental EIS should be combined with the ACS Supplemental EIS. The agencies are considering alternatives to modify or eliminate the Survey and Manage mitigation measure in the Northwest Forest Plan to settle litigation filed by the timber industry and county government associations.

Other alleged connected analyses were also named, including the Forest Service "Invasive Plant EIS," the BLM and FS "Port-Orford-cedar EIS" and the BLM "Vegetation Treatments Programmatic EIS." The Port-Orford-cedar EIS was necessitated by the Kern v. BLM decision of the Ninth Circuit, and the BLM Vegetation Management EIS is intended to address problems created by court injunctions from the 1980's that still restrict BLM herbicide use.

Some commenters said that proposed changes to the Forest Service planning rule (36 CFR 219), proposed changes to the Forest Service appeal rule (36 CFR 215), and proposed changes to BLM and FS categorical exclusion regulations as actions that should be considered within this SEIS.

The agencies considered all of these suggestions and determined that the various agency proposals are not connected or similar actions and therefore need not be combined in a single SEIS (CEQ 1508.25). Attempting to analyze all of these activities in a single EIS is impractical because they cover a wide range of geographic areas. The alternatives in the ACS SEIS are not affected by any of the other proposals, nor are any of the other proposals dependent on the alternatives in the ACS SEIS.

Exempt Ski Resorts from Aquatic Conservation Strategy Standards and Guidelines

The agencies also considered an alternative to exempt ski resorts from the Aquatic Conservation Strategy standards and guidelines. ACS standards and guidelines may restrict ski run development, thereby reducing the potential for additional recreational opportunities. The commenter suggested that an array of Best Management Practices already in use by the ski industry would meet the same needs as the ACS standards and guidelines.

This alternative to exempt ski industry operations from the Aquatic Conservation Strategy standards and guidelines was eliminated from detailed study because it does not respond to the Need for Action. This alternative would not clarify language in the ACS that hampers the agencies' ability to meet Northwest Forest Plan objectives. The scope of this SEIS is strictly limited to clarify ACS intent; this alternative would deviate from the intent to apply the ACS to all activities on federal lands within the Northwest Forest Plan area.

Additional Mitigation Measures

Several commenters suggested that the agencies consider an alternative to expand Riparian Reserves and strictly prohibit activities that affect aquatic or riparian ecosystems. This alternative would also include additional measures intended to benefit fish.

The agencies previously considered additional mitigation measures that could benefit fish and chose not to adopt them (Northwest Forest Plan Record of Decision, Page 29). These measures included removing lands from programmed timber harvest in Tier 1 Key Watersheds, no new road building in Tier 1 Key Watersheds, and no programmed timber harvest in inventoried roadless areas.

This alternative was eliminated from detailed study because it would include a re-analysis of mitigation measures that were not adopted in 1994. Such an analysis is beyond the scope of this SEIS.

Streamline Procedures for Planning Restoration Activities

This alternative would streamline procedures for planning and implementing restoration activities, while leaving the existing language intact for logging, mining, and other extractive activities. Short-term disturbance to aquatic or riparian habitat would be allowed for watershed restoration projects. Short-term disturbance to aquatic or riparian habitat would not be allowed for logging or non-restoration projects.

This alternative was eliminated from detailed study because it would not meet the need to clarify the ACS. Applying different approaches to the ACS to different types of projects has no valid rationale and would not resolve ambiguities within the current language. It would lead to further confusion over which standards apply in the case of connected actions (such as culvert upgrades associated with a timber sale haul route).

Change Watershed Analysis to Watershed Plans

This alternative would modify the ACS by changing the role of watershed analysis. Watershed analysis would become a decision-making process and would contain prescriptive steps and priorities for restoring watersheds. Watershed plans would be similar to Resource Management Plans, except they would be applicable to a smaller geographic area. Projects would be required to be designed consistent with these watershed plans.

This alternative was eliminated from detailed study because it does not respond to the Need for Action. It would not address the confusion that has arisen from the misapplication of the ACS objectives. Watershed analysis is, and will continue to be, one of the four components of the ACS.

Required Procedures for Cumulative Watershed Impact Analysis

This alternative would add language to the ACS with specific requirements to use an equivalent roaded area (ERA) calculation for conducting cumulative watershed impact analysis. ERA analysis would be limited to watersheds of 5,000 - 15,000 acres. Projects with a low potential to affect water quality would be exempt from using the ERA calculation.

This alternative was eliminated from detailed study because it is does not address the Need to clarify language in the ACS. It would create an additional standard, which is not within the scope of this analysis.

Creating standards and guidelines specifying use of a single model could unnecessarily constrain interdisciplinary teams or require analysis that is not useful or relevant. NEPA requires that environmental analyses use the best available information. Specifying a particular model in the standards and guidelines would force analysts to use the model even if better methods are available or lead to endless amendments as models are updated and refined. Also, agency direction on how and when to complete cumulative effects analysis is already available.

Add a 10-year Time Frame for Achieving ACS objectives

Some groups suggested that a 10-year time frame for achievement of ACS objectives should be added to standards and guidelines that refer to ACS objectives. This alternative was considered, but eliminated from detailed study because it would conflict with language on Page B-9 of the Northwest Forest Plan Record of Decision that states:

> "...it may take decades, possibly more than a century, to accomplish all of [the ACS] objectives. Some improvements in aquatic ecosystems, however, can be expected in 10 to 20 years."

Requiring projects to achieve ACS objectives in a 10-year time frame could establish an unreasonable standard.

Proposed Action Language Circulated for Scoping

The original language described in the NOI and circulated for scoping was eliminated from detailed study because new language better responds to the Purpose and Need, based on internal and public comment. The original Proposed Action was intended to meet the same needs, but was found to lack some important elements included in the revised Proposed Action. The text of the Proposed Action circulated for scoping is in Appendix C.

Alternatives Compared

This section provides a comparison of the two alternatives in terms of decision factors, issues and environmental consequences.

Figure 3. Alternative Comparison Table

	No Action	Proposed Action
Ambiguous Language in Attachment A of the Northwest Forest Plan Record of Decision.	**Does not amend language in Attachment A of the Northwest Forest Plan.**	**Amends language in Attachment A of the Northwest Forest Plan.**
Standards and Guidelines	**Does not clarify the role of standards and guidelines in following the ACS.**	**Clarifies role of Section C and D standards and guidelines in following the ACS.**
Program of Work – Watershed Restoration	**Some projects delayed or stopped due to ACS interpretations.**	**Fewer projects delayed or stopped.**
Program of Work – Vegetation Management	**Some projects delayed or stopped due to ACS interpretations.**	**Fewer projects delayed or stopped.**
Rate of Watershed Recovery	**Slower than rate anticipated in the Northwest Forest Plan.**	**Closer to rate anticipated in Northwest Forest Plan.**
Timber Sale Volume Offered	**Timber sale levels less than anticipated in Northwest Forest Plan.**	**Timber sales closer to levels anticipated in Northwest Forest Plan.**
Environmental Consequences	**Less similar to Alternative 9 in the Northwest Forest Plan.**	**More similar to Alternative 9 in the Northwest Forest Plan.**

CHAPTER 3&4. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Introduction

This Supplemental EIS tiers to the Northwest Forest Plan SEIS and incorporates, through reference, the Forest Ecosystem Management: An Ecological, Economic, and Social Assessment; Report of the Forest Ecosystem Management Assessment Team (FEMAT 1993). Chapter 3&4 supplements analysis contained in the Northwest Forest Plan Final SEIS.

Chapter 3&4 presents the analytical basis for the comparison of alternatives presented in Chapter 2. "Chapter 3&4" is so titled because it combines the Affected Environment and Environmental Consequences sections required by the National Environmental Policy Act. These chapters were combined in the FSEIS for the Northwest Forest Plan.

Chapter 3&4 discusses the affected environment and environmental consequences predicted for each alternative. Chapter 3&4 also describes the Aquatic Conservation Strategy, addresses environmental conditions that may have changed since 1994, discusses new listings under the Endangered Species Act and Clean Water Act, and reviews monitoring and adaptive management plans.

The Aquatic Conservation Strategy

The Aquatic Conservation Strategy was developed to restore and maintain ecological health of watersheds (and the aquatic ecosystems contained within them) on Federally-managed lands within the Northwest Forest Plan area. The four major components of the Aquatic Conservation Strategy (Riparian Reserves, Key Watersheds, watershed analysis, and watershed restoration) provide the basis for protection of watershed health. As stated within the Northwest Forest Plan Record of Decision:

> "The Aquatic Conservation Strategy must strive to maintain and restore ecosystem health at watershed and landscape scales...This approach seeks to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds."

One of the authors of the ACS from the FEMAT team described the intent of the ACS as follows:[6]

> "The ACS objectives provide a framework for managing aquatic ecosystems at the watershed and landscape (i.e. multiple watershed) scale. They describe the attributes and distribution of aquatic ecosystems believed necessary to provide conditions for maintaining currently strong populations of fish and other aquatic and riparian-dependent organisms and to recover currently degraded ecosystems. They are not intended to be a hard set of criteria that could or can be applied equally at all spatial scales of concern (i.e. site, watershed, province and region)."

In November 1999, the Regional Ecosystem Office (REO) published a memorandum addressing "Northwest Forest Plan Record of Decision requirements for determining project consistency with ACS objectives." The REO clarified that, "the watershed scale is the appropriate landscape context for determining whether actions are consistent with the ACS objectives."

In December 2002, the United States Department of the Interior Office of Hearings and Appeals, Interior Board of Land Appeals (IBLA) upheld the BLM's interpretation of the ACS. The IBLA decision states:

> "The Northwest Forest Plan does not require every action conducted in a watershed to result in improvement to the watershed," and that "it may take decades, possibly more than a century" to achieve ACS objectives.

The IBLA concludes that timber sales that would not degrade a watershed are not precluded (even though they may have short-term, site-scale effects). The full text of the IBLA decision and REO memorandum are included in Appendix A.

The Northwest Forest Plan contains language that support the desired interpretation of the ACS, including:

> **P. V-30, FEMAT; FSEIS B-82**. "...To succeed, any Aquatic Conservation Strategy must strive to maintain and restore ecosystem health at watershed and landscape scales. Thus, this is the approach the conservation strategy here employs. The approach seeks to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds... "

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[6] Declaration of Gordon Reeves Ph.D. filed in 1999 in PCFFA v. NMFS Civ No. C 99-0067 R (W..D. Wash.). Full text of the declaration is included in Appendix A.

> **FSEIS 3&4-320:** "...Projects can only proceed if watershed analysis and site-specific analysis and consultation find management activities consistent with...management direction. The consistency of these actions with specific prescriptions and long-term objectives of this proposal will either be affirmed by monitoring and research, or will be adapted to conform with the long-term objectives."
>
> **FSEIS B-83:** "Implementing the ACS requires applying the standards and guidelines ...within the context of the overall ACS objectives."
>
> **FSEIS B-83:** "The standards and guidelines are designed to focus the review of proposed and existing projects to determine their compatibility with the ACS."
>
> **Record of Decision Page B-12; FSEIS 3&4-68:** "Appendix B6 describes the standards and guidelines that regulate activities within Riparian Reserves. These standards and guidelines are intended to prohibit and/or regulate activities that retard or prevent attainment of the ACS objectives."
>
> **FSEIS Volume II, Appendix F. pg. F-166:** "The standards and guidelines in Appendix B6, Aquatic Conservation Strategy, provide the Riparian Reserve definitions, including the prescribed widths. The Aquatic Conservation Strategy objectives do not meet the definition of standards and guidelines and thus, are not included."

In a 2003 review of the science behind the ACS, Gordon Reeves wrote:

> "The Aquatic Conservation Strategy was designed to restore and maintain the process that create and maintain conditions in aquatic ecosystems over time."

Reeves also wrote that successful implementation of the ACS would require:

> "...policies that recognize the dynamic nature of aquatic ecosystems and describe practices that allow the systems to express a range of desired conditions over time."

Reeves noted that watersheds that support aquatic ecosystems display a range of conditions and not every reach of stream need be in good condition for the watershed to function properly. The full text of Reeves' report is in Appendix F.

Potential Changed Conditions

The agencies considered whether large wildland fires, floods, droughts or El Niño weather patterns occurring since 1994 changed the Affected Environment of Environmental Consequences described in FEMAT report or the Northwest Forest Plan Final SEIS. These natural episodic disturbance events are an integral part of process- based management contained in the Aquatic Conservation Strategy. As stated in the FEMAT report (Page V-29) and the Northwest Forest Plan FSEIS (Page B-81):

> "The heart of the approach is the recognition that fish and aquatic organisms evolved within a dynamic environment."

The agencies determined that large fires, flood, drought and El Niño events occurring since 1994 are not changed conditions that would invalidate the four components of the ACS (watershed analysis, watershed restoration, Key Watersheds, Riparian Reserves). The Northwest Forest Plan and Aquatic Conservation Strategy require consideration of natural disturbances in land management decisions. The events occurring since 1994 will be factored into the planning process at all scales. The Proposed Action would not change the way the agencies respond to these events.

The Northwest Forest Plan provided an adaptive management approach to environmental conditions and events. The Northwest Forest Plan recognized that ecosystems are not static but are ever changing in response to conditions and events.

Further information about potential changed conditions is in Appendix E.

New Listings under Endangered Species Act and Clean Water Act

Some people have suggested that new listings of fish under the Endangered Species Act, or new listings of streams as water quality impaired under the Clean Water Act, are changed conditions that may trigger a reconsideration of the Northwest Forest Plan.

The Northwest Forest Plan considered effects on 259 species of fish. This comprehensive consideration included species that have been recently listed. The ACS was designed to maintain and restore habitat for these species on Federal lands, including those that have been listed under the Endangered Species Act. The Proposed Action does not alter any of the assumptions or findings in the Northwest Forest Plan related to the viability of at-risk fish species.

The Riparian Reserves were widened in Alternative 9 to increase the probability that viability of at-risk fish species would be maintained. The probability of maintaining viability of at-risk fish species increased from 65 percent to 80 percent due to the increased Riparian Reserve widths.

Approximately 20 species of fish have been proposed for listing, or listed under the Endangered Species Act since 1994.[7] The Northwest Forest Plan anticipated Endangered Species Act listings (FSEIS Chapter 3&4 Page 202):

> "...the [Aquatic Conservation] strategy can succeed at maintaining and restoring aquatic and riparian habitats regardless of what happens on Federal lands, but that would not ensure the population viability of many of the fish stocks evaluated in the SEIS. For these reasons, it is not possible to determine whether any of the alternatives in the SEIS would preclude listing of fish species under the Endangered Species Act."

Nancy Foster, Ph.D., Acting Assistant Administrator for NMFS, wrote a comment letter to the Northwest Forest Plan Draft SEIS. In her letter, Dr. Foster wrote:

> "The relatively large Riparian Reserves...combined with the requirements to conduct watershed analysis prior to any resource management activities and to implement comprehensive watershed restoration to accelerate habitat recovery, could avoid harm to anadromous fish in many watersheds throughout the range of the northern spotted owl."

All of the components described in this excerpt were included in the selected alternative in the Northwest Forest Plan, and are not altered by the proposed amendment.

Approximately 83 sub-basins within the Northwest Forest Plan area contain streams that have been listed as impaired because of high water temperature and/or sediment loads. Several of these listings have occurred since 1994. This increase in listed waters is not necessarily related to an increase in degraded conditions. Since 1994, an intense effort has been underway to collect water quality information about streams that were not monitored previously. The increase in temperature listings has occurred in part because of widespread availability of inexpensive technology that can capture continuous, high quality water temperature data.

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[7] See Appendix D for current Endangered Species Lists

Appendix F, Page 173 of the Northwest Forest Plan FSEIS notes that:

> "Not all areas have been inventoried to cover all riparian and aquatic systems on federal lands within the range of the northern spotted owl."

Judge William Dwyer ruled on whether the new listings under the Endangered Species Act and Clean Water Act are changed conditions that require consideration in an SEIS as follows:

> "The claims regarding certain fish and the declining water quality of streams relates not to new data but to changes in legal status under the Endangered Species Act and...the Clean Water Act; while these listings are important, they do not, in themselves, require a new SEIS."[8]

Monitoring and Adaptive Management

Implementation and effectiveness of the ACS is being assessed through the Interagency Regional Monitoring Program that has been in place for the Northwest Forest Plan since 1996. This program conducts broad-scale monitoring on Federally-managed lands within the Northwest Forest Plan area and represents the combined monitoring efforts of eight federal agencies and partnerships with state agencies and academic institutions.

The 2001 field season marked the sixth consecutive year of the Northwest Forest Plan implementation monitoring program. This program is designed to determine whether the Record of Decision and its corresponding standards and guidelines are consistently followed across the Northwest Forest Plan area. Overall, compliance in meeting the Northwest Forest Plan standards and guidelines was 98 percent for the 21 projects and watersheds monitored in 2001 (Annual Report 2001 Interagency Regional Monitoring).

Other ongoing efforts to evaluate the effectiveness of the ACS at watershed and broader scales include the Aquatic Riparian Effectiveness Monitoring Plan (AREMP), which was approved in March 2001. The AREMP report is in press at this time (Reeves et al 2003). The AREMP will provide information at the province scale in a decade or more.

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[8] ONRC Action v United States Forest Service, U.S.D.C., Western District of Washington, Civ. No. 98-942 WD, August 2, 1999, p 17

Recent water quality monitoring reports have been published in Oregon.[9] The "Oregon State of the Environment Report 2000" was produced to specifically describe the conditions and trends of Oregon's environment and suggest ecosystem indicators to help track environmental progress in the state. The Oregon Department of Environmental Quality used 129 ambient monitoring stations to develop the Oregon Water Quality Index Summary Report for Water Years 1992 – 2001 (Cude 2001). Water quality increased at 66 sites, decreased at 7 sites, and stayed the same at 56 sites.

The monitoring time period has been too short for agencies to demonstrate how well the ACS has worked to improve aquatic habitats. The authors of the Aquatic Conservation Strategy stated that:

> "We emphasize, however, that it will require time for this strategy to work. Because it is based on natural disturbance processes, it may take decades to over a century to accomplish all of its objectives."

The Northwest Forest Plan also requires adaptive management. Adaptive management is a continuing process of action-based planning, monitoring, researching, evaluating, and adjusting with the objective of improving the implementation and achieving the goals of the selected alternative. Under the concept of adaptive management, new information will be evaluated and a decision will be made whether to make adjustments. Both alternatives include ongoing monitoring programs. The agencies also conduct effectiveness monitoring of water quality Best Management Practices included in all projects.

The watershed analysis process encourages informal updates as new information becomes available. Updated watershed analyses are likely to be an important future source of monitoring information.

Effects Analysis Framework

This effects analysis supplements findings within the Northwest Forest Plan and its Final SEIS. Discussions about the Affected Environment and the Environmental Consequences of the ACS and Northwest Forest Plan are not repeated, but are incorporated by reference.

The IDT reviewed findings within the Northwest Forest Plan FSEIS and determined that the Proposed Action would not invalidate any of the assumptions or conclusions for the Selected Alternative 9 (see Appendix B for the findings review).

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[9] Similar data are not available for California and Washington.

Other Analysis Efforts Within the Northwest Forest Plan Area

Other planning efforts are underway within the Northwest Forest Plan area that may affect various Resource Management Plans and how they are implemented. The agencies are currently considering alternatives to modify or eliminate the Survey and Manage mitigation measure in the Northwest Forest Plan. In 2001, the Secretaries of Agriculture and the Interior amended the Northwest Forest Plan with the Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines.

Timber industry and county government associations litigated that decision. On September 30, 2002, the Secretaries entered into a settlement agreement that required the BLM and Forest Service to examine an alternative "that replaces the Survey and Manage mitigation requirements with existing Forest Service and BLM special status species programs to achieve the goals of the Northwest Forest Plan through a more streamlined process" in a new SEIS.

Other ongoing analysis efforts within the Northwest Forest Plan area include the Forest Service "Invasive Plant EIS," the BLM and Forest Service "Port-Orford-cedar EIS," and the BLM "Vegetation Treatments Programmatic EIS." The Port-Orford-cedar EIS was necessitated by the Kern v. BLM decision of the Ninth Circuit. The BLM Vegetation Management EIS was initiated to address problems created by court injunctions from the 1980's that still restrict BLM herbicide use.

The cumulative effects of proposed Northwest Forest Plan amendments are expected to be similar to effects analyzed in the 1994 Northwest Forest Plan FSEIS for Alternative 9. None of these efforts seek to change the predicted effects of the ACS. The decision whether or not to amend ACS language is not dependent on the other planning efforts.

Environmental Consequences

The environmental consequences of the alternatives are highly speculative. The effects of No Action are particularly uncertain because the current language contains ambiguities that can be misinterpreted. The agencies believe that this language needs to be amended to clarify the ACS, but cannot quantify to what extent the amendment will result in increased implementation of projects needed to follow Northwest Forest Plan principles.

Effects on Watershed Restoration

Watershed restoration includes transportation system treatments, culvert removal and replacement, restoration silviculture in reserves, and stream enhancement projects. Between October 1997 and November 1998, watershed restoration efforts were focused on reducing road-related erosion, silvicultural treatments in Riparian Reserves to restore large conifer canopies and stream enhancement activities to restore channel form and function based on an extract from the BLM and FS Interagency Restoration Database.

Road-related restoration efforts include: road maintenance, decommissioning and closures; storm damage repairs; road resurfacing; placement of cross-drains to improve road drainage, and culvert replacements to allow the passage of fish, flood flows, bedload, and woody debris.

Riparian Reserves have been treated through precommercial and commercial thinning to promote more rapid development of large conifers for large woody debris recruitment and shade. Stream restoration work to restore habitat complexity, such as large wood placement or creation of off-channel rearing habitat, has also been accomplished.

A variety of funding sources, such as those related to timber sales, have been used to fund watershed restoration efforts. Other primary funding sources used to accomplish watershed restoration include Title II[10], Jobs in the Woods Program, emergency flood repair, salmon recovery incentives and Bonneville Power Administration funding.

Watershed restoration is often associated with vegetation management projects (discussed below). Projects intended to reduce road-related adverse effects are often funded or accomplished as part of a timber sale project. Timber sales can provide a mechanism for restoration silviculture. Knudsen-Vandenberg funding generated from timber sales can be used for watershed restoration within sale areas on National Forest system lands. As the rate of timber sold declines, so does restoration work funded through timber harvest operations and sales.

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[10] Title II is part of the Secure Rural Schools and Community Self-Determination Act of 2000, PL 106-393. It allows counties to fund watershed restoration projects on Federal lands.

Appendix V-J of the 1993 FEMAT report states:

> "Agency capacity to conduct road maintenance has recently declined greatly, as funds for maintenance and timber-purchaser conducted maintenance have been drastically reduced. This is resulting in progressive degradation of road drainage structures and function causing erosion rates and potentials to increase. This will worsen unless additional funding for road maintenance is provided and/or the road mileage is drastically reduced through decommissioning. If we do not maintain or remove the roads, mother nature will remove them, with serious consequences to aquatic habitats."

The concerns expressed in this excerpt are still relevant. Reduced levels of watershed restoration could have serious consequences to aquatic habitats. Appendix V-J of the FEMAT report also stated that processes that have degraded watersheds would not be reversed without a comprehensive restoration program.

An ironic result of PCFFA v. NMFS is that Federal timber sale planners have become reluctant to include restoration work in proposed timber sale projects if the restoration work may result in disturbance to aquatic or riparian habitats and triggers the need for Endangered Species Act consultation.

Effects of No Action on Watershed Restoration

At least some watershed restoration projects (road decommissioning, culvert removal and replacement, and stream enhancement) might not be implemented under No Action because land managers would encounter continued difficulty demonstrating that projects maintain the existing condition at all spatial scales.

Some watershed restoration projects were released under the PCFFA v. NMFS litigation, but the biological opinions that covered the projects were invalidated by the U.S. District Court. Some watershed restoration components were not released because they were attached to timber sales. The effect of new consultation processes on watershed restoration is unclear given the existing ACS language.

Under No Action, decreased timber harvest would reduce future opportunities for restoration projects connected to timber sales. The agencies would have continued uncertainty about their program of work. Uncertainty may affect the agencies ability to participate in funding partnerships.

Effects of the Proposed Action on Watershed Restoration

More watershed restoration projects would be likely implemented under the Proposed Action than No Action. Opportunities to integrate timber sales and restoration projects would likely be more available if managers were not required to demonstrate that projects maintain the existing condition at all scales. Revenues from timber sales can provide funding for restoration projects; if the timber harvest level increases under the Proposed Action, the restoration project level would likely also increase.

An important component of the ACS is watershed analysis. The Proposed Action emphasizes that watershed analysis must be used to provide context for project planning.

Effects on Vegetation Management

Vegetation management includes timber management, harvest and sales; timber stand improvement projects; and fuels reduction projects. Some vegetation management projects overlap with watershed restoration projects described previously.

Timber Sales

The Northwest Forest Plan established the term "Probable Sale Quantity" (PSQ) for estimates of average annual timber sale levels likely to be achieved. The Northwest Forest Plan used the term PSQ to acknowledge inherent uncertainties in the estimates (Johnson et al. 1993). The Northwest Forest Plan FSEIS (Chapter 3&4, Page 267) addressed the potential for the PSQ to change as National Forest and BLM District plans were completed or revised:

> "Sustainable sale estimates will be made using more refined data and procedures available when Draft Forest and District Plans are completed or current plans are revised."

The Northwest Forest Plan FSEIS (Chapter 3&4, Pages 266 and 268) estimated the PSQ at 958 million board feet (MMBF), plus an additional 10 percent volume estimated in "other wood" (cull, sub-merchantable, firewood, and other products) for a total of 1.1 billion board feet.

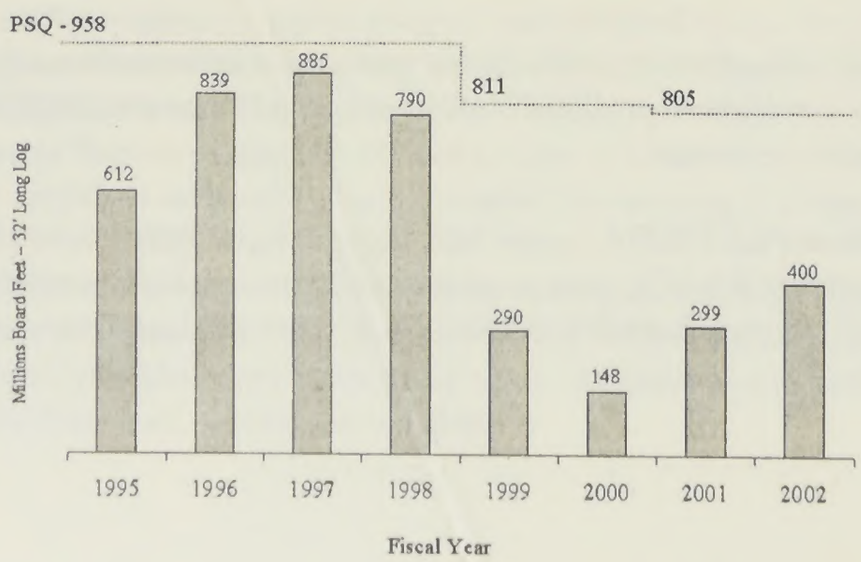
By 1998, PSQ across the Northwest Forest Plan area was reduced by 15 percent, to 811 MMBF. Revised Riparian Reserves acreage estimates at the local administrative unit level, was the single largest factor for the reductions in PSQ. It was determined that more of the landscape was in Riparian Reserves and therefore not available to contribute to the PSQ.

The Northwest Forest Plan assumed that 90 percent of the early decades PSQ would come from late-successional and old growth forest, much of it through regeneration harvest. Individual Resource Management Plans outline assumptions for the amount and timing of silvicultural prescriptions such as thinning, partial cutting, and regeneration harvesting. The planning assumptions are based on the type of forests and the mix of older and younger forests available for harvest within each administrative unit.

Achievement of Probable Sale Quantities for the individual administrative units, and for the Northwest Forest Plan area as a whole, are contingent on the ability to implement the full range of silvicultural prescriptions outlined in individual Resource Management Plans.

The agencies' annual timber sale offerings are shown in Figure 4. Since 1999, the agencies offerings have been reduced to 35 percent of the PSQ. The reduction in sale offerings are the result of appeals and protests on individual projects, enjoined biological opinions in PCFFA v. NMFS litigation, and implementation of the Survey and Manage mitigation measures, among other reasons.

Figure 4. Timber Sale Volume Offered in Comparison to PSQ, 1995-2002



The November 2000 Final SEIS for Amendment to...Survey and Manage...(USDA, USDI 2000, Page 434) estimated that without modification, over time the Survey and Manage mitigation measures would result in a 37 percent reduction in PSQ. The agencies decided to modify the Survey and Manage mitigation measures in part to reduce impacts on forest management activities. Under the Preferred Alternative in the 2000 Survey and Manage Final SEIS, agencies were expected to come closer to meeting the PSQ.

Most of the agencies' current inability to meet PSQ can be attributed to the their response to the PCFFA v. NMFS litigation. In Fiscal Years 2001, 2002 and 2003, the Oregon BLM provided interim guidance on how to prepare and offer timber sales, given the current uncertainty. The most recent BLM Bulletin of the three (IB-OR-2003-026) stated:

> "The nature of the situation dictates the development of a FY 2003 Timber Sale Plan that continues to place interim emphasis on partial cuts. This emphasis (a continuing interim strategy) is driven by circumstances in an attempt to effectively utilize appropriated funds and implement the Allowable Sale Quantity (ASQ) and socioeconomic objectives of the [Northwest Forest Plan] to the maximum extent possible. It is anticipated that as the current challenges are resolved, the emphasis for balanced [Northwest Forest Plan] implementation, i.e., partial cuts, regeneration cuts, restoration as a requirement of timber sale contracts, etc., will resume."

Effects of No Action on the Timber Sales

No Action is expected to result in continued uncertainty about the timber sale program. NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) are developing new approaches to consultation that do not rely on the ACS as a surrogate for Endangered Species Act jeopardy analysis. The new approaches would be applied to programmatic consultation. However, ACS ambiguities would continue to create the potential for litigation under statutes such as FLPMA and NFMA.

The agencies have not been able to achieve the level of timber sales predicted for the Northwest Forest Plan. In recent years, the agencies have offered for sale 35 percent of the PSQ volume; future sale levels under No Action are unknown but are most likely to be similar to recent years. Over the long term, No Action could significantly reduce the agencies' ability to meet PSQ. Uncertainty has indirect, unpredictable effects such as loss of experienced personnel or industry infrastructure.

Agency ability to achieve PSQ may be affected by other planning efforts such as the Survey and Manage SEIS. Proposed changes to the Survey and Manage mitigation measures may help agencies come closer to meeting the PSQ.

Effects of the Proposed Action on Timber Sales

Amended ACS language would not directly affect timber sales covered under biological opinions that were enjoined in PCFFA v. NMFS. New biological opinions would have to be issued by NOAA Fisheries before these projects could be implemented. How these, or other Federal timber sales would be evaluated under a new consultation process is not known.

The agencies are likely to continue to develop timber sale projects in an atmosphere of uncertainty, partly because groups opposed to timber sales are likely to continue to initiate litigation. The clarified language would only reduce potential for litigation regarding specific ambiguities within ACS wording. Land managers would be more likely to successfully plan and implement projects that follow the ACS. Agencies would be more likely to achieve PSQ levels than under No Action.

An important component of the ACS is watershed analysis. The Proposed Action emphasizes that watershed analysis must be used to provide context for project planning.

Currently, the agencies are considering further modification/elimination of the Survey and Manage mitigation measures in response to litigation. Proposed changes to the Survey and Manage mitigation measures may help agencies come closer to meeting the PSQ. The effects of further modifications to the Survey and Manage mitigation measures will be disclosed in a separate SEIS.

Timber Stand Improvement and Fuels Reduction

Under No Action, some timber stand improvement and fuels reduction projects may be stopped or delayed by appeals and litigation due to misunderstanding of the ACS. Agencies have not identified specific projects that have been hindered by the existing ACS language or interpretations. Land managers would likely have some difficulty demonstrating that the projects follow the ACS given the current interpretation.

Some of these projects are associated with timber sales or are funded by timber sale receipts. Under the Proposed Action, land managers would likely be more successful in designing projects to follow the ACS.

Indirect and Cumulative Effects of No Action

Physical and Biological Effects

Indirect and cumulative physical and biological effects for No Action are even more speculative than the programmatic effects. Under No Action, projects with any short-term impact could have the potential to be stopped or delayed due to ACS misinterpretations, appeals, and litigation. In the short term, delaying or avoiding projects could have some positive benefits on the physical and biological environment, since the risk of short-term adverse effects from the projects would be reduced or eliminated. However, opportunities to restore watersheds through cumulative action over time could be foregone.

Delays in restoration can have negative longer-term consequences to aquatic ecosystems. Under No Action, less active restoration would likely occur than under the Proposed Action. Reduced levels of restoration could reduce the rate of watershed recovery.

In addition, if the ACS interpretation results in delayed implementation of fuels reduction projects, the risk of adverse effects of wildland fire could increase.

Socio-economic Effects

No Action would continue to constrain the agencies' ability to achieve the desired levels of timber sales, timber stand improvement, fuels reduction, and watershed restoration. Continued reduced timber sale levels may negatively affect employment within the wood products industry. Reduced levels of timber stand improvement, fuels reduction and watershed restoration associated with No Action could similarly affect forestry-based employment. However, direct employment and associated indirect employment effects are not quantifiable in the short- or long-term.

Uncertainty about overall Federal timber sale programs may also negatively affect timber industry investment founded on predictable timber supplies. If timber sale receipts are reduced, government revenues and revenue sharing with states and counties are reduced.

Indirect and Cumulative Effects of the Proposed Action

Physical and Biological Effects

Under the Proposed Action, land managers would continue to plan watershed restoration and vegetation management programs to meet Northwest Forest Plan goals. The language change would allow land managers to more successfully demonstrate that projects follow the ACS, with a likely result of more successful project implementation.

If the Proposed Action results in increased vegetation management and watershed restoration activities, risk of adverse short-term, site-level impacts would increase proportionately to the amount of work implemented. Predicted effects are described in the Northwest Forest Plan FSEIS. The potential adverse effects to aquatic and riparian habitats include: risk of increased sedimentation from disturbance from road work and logging operations, risk of effects to peak flows from canopy removal; and risk of loss or degradation of wildlife habitat. Federal land managers evaluate these effects project by project and cumulatively, and include mitigation measures to reduce the risk of adverse effects from projects. These potential effects are also evaluated at a programmatic level within Resource Management Plans.

The Northwest Forest Plan acknowledges that disturbances are natural occurrences within forested habitats and that management of this habitat without disturbance is impossible. Some level of disturbance is necessary, and even beneficial to the ecosystem. The clarified language for the ACS is expected to result in improved decisions that reflect these concepts. The amendment does not change the intent of the Aquatic Conservation Strategy, "to restore and maintain the ecological health of watersheds and the aquatic ecosystems contained within them on Federal lands." (Northwest Forest Plan Record of Decision Page B-9). The Proposed Action does emphasize that watershed analysis must be used to provide context for project planning. This does not imply that watershed analysis (WA) recommendations would be utilized as decisions, as the WA is not a decision making document. The information provided by the WA would help provide the context and support for certain actions.

The Northwest Forest Plan FSEIS disclosed programmatic effects of several alternatives for land management across the Northwest Forest Plan area, including the selected Alternative 9. The effects of the Proposed Action (in the ACS SEIS) are consistent with the effects of Alternative 9 in the Northwest Forest Plan. These effects are discussed in Appendix B in this ACS DSEIS.

Timber harvest rates on non-federal lands since 1994 have not invalidated Northwest Forest Plan findings and assumptions. Increased harvests on non-Federal lands were assumed in the FSEIS.

The Northwest Forest Plan FSEIS recognized the potential for degradation due to non-federal forest practices and stated, "The success of the [Aquatic Conservation] Strategy does not depend on actions on non-Federal lands."

Socio-economic Effects

The Proposed Action could increase agency success in planning and implementing projects that follow the ACS and result in positive effects to direct wood products manufacturing, restoration and forestry employment and associated indirect employment. These effects are not quantifiable.

Increased certainty about Federal timber sale programs may positively affect timber industry investment. If timber sale receipts are increased, government revenues and revenue sharing with states and counties also increase. Overall, the Proposed Action would have similar socio-economic effects to those of Alternative 9, to the extent that agencies are able to implement projects and programs needed to meet Northwest Forest Plan goals.

Required Disclosures

Relationship Between Short-term Uses and Long-term Productivity

The Proposed Action does not approve any short-term uses nor would it have any effects on long-term productivity. The ACS is still intended to protect long-term productivity of aquatic and riparian ecosystems within the Northwest Forest Plan area.

Conflicts with Other Plans

This SEIS incorporates by reference the discussion in the Northwest Forest Plan Final SEIS concerning conflicts with other plans (USDA, USDI 1994a, pp. 3&4-319 and 320, and Appendix D). Limited changes to language in the ACS would not alter the conclusion of the Northwest Forest Plan Final SEIS regarding the possible conflicts with other plans.

Irretrievable and Irreversible Commitment of Resources

The Proposed Action does not make any irretrievable or irreversible commitments of resources.

Civil Rights and Environmental Justice

No disparate or adverse effects are identified to groups of people identified in Civil Rights statutes or Executive Order 12898 (Environmental Justice) from the Proposed Action. This finding is due largely to the administrative nature of the proposed change (i.e. a change in wording of an existing SEIS to clarify requirements). A Civil Rights Impact Analysis was prepared to comply with all applicable civil rights statutes, including Title VI of the Civil Rights Act of 1964.

Effects on Critical Elements as Defined in the BLM NEPA Handbook (H-1790-1)

Both agencies require disclosure of effects on several critical elements of the human environment. These include air quality, Areas of Critical Environmental Concern, Cultural Resources, prime and unique farm and forest lands, floodplains, Native American religious concerns, threatened and endangered species, hazardous materials and solid waste, surface and ground water quality, wetlands and riparian zones, wild and scenic rivers, noxious weeds and environmental justice. The Proposed Action does not have the potential to affect any of these elements beyond the levels disclosed previously in the Northwest Forest Plan Final SEIS (see Appendix B for details). Appendix D includes endangered species information.

American Indian Rights and Resource Issues

Discussion about tribal treaty rights and trust resources starts on Page 54 of the Northwest Forest Plan Record of Decision. American Indian treaty rights and trust resources will be protected under the proposed amendment. A reduction in timber sales may affect tribes' ability to secure resources for traditional and cultural uses, such as logs for canoes and long houses.

The Proposed Action would affect management of the Coquille Forest. These lands are owned by the Coquille Indian Tribe, are part of the Coquille Indian Reservation, and are held in trust by the United States. An Act of Congress in 1996 transferred ownership of about 5,400 acres of federal land within the Northwest Forest plan transferred to the Coquille Indian Tribe. The Act required that Coquille Forest comply with the adjacent Coos Bay BLM District Resource Management Plans. The Coquille

Forest would be affected by this proposed amendment to the Coos Bay BLM Resource Management Plan.

The Proposed Action has effects on tribal treaty rights and trust resources similar to Alternative 9 in the Northwest Forest Plan.

CONSULTATION AND COORDINATION

This SEIS was prepared by an Interagency Interdisciplinary Team (see List of Preparers below). Several agencies provided consultation and coordination input. The primary agencies involved include:

Department of Commerce,
    National Oceanic and Atmospheric Administration (NOAA Fisheries) ,
The Regional Ecosystem Officer (REO)
Environmental Protection Agency (EPA)
United States Department of the Interior,
    Bureau of Land Management,
    Bureau of Indian Affairs,
    Solicitors' Office,
    U.S. Fish and Wildlife Service (USFWS),
United States Department of Agriculture,
    US Forest Service,
    Office of Government Counsel,
    Pacific Northwest Research Station

Distribution of the Draft Supplemental Environmental Impact Statement

This Draft Supplemental Environmental Impact Statement (SEIS) was mailed to the following individuals, groups, and organizations. The list includes elected officials; federal agencies; state, local, and county governments; American Indian Tribes and Nations; businesses; other organizations; libraries; and individuals. It is also available via the Internet at: http://www.reo.gov/acs/.

Elected Officials

California
Senator Barbara Boxer
Senator Dianne Feinstein
Representative Sam Farr
Representative Wally Herger
Representative Barbara Lee
Representative Robert Matsui
Representative George Miller
Representative Doug Ose
Representative Nancy Pelosi
Representative Mike Thompson
Representative Lynn Woolsey

Oregon
Senator Gordon Smith
Senator Ron Wyden
Representative Earl Blumenauer
Representative Peter DeFazio
Representative Darlene Hooley
Representative Greg Walden
Representative David Wu

Washington
Senator Maria Cantwell
Senator Patty Murray
Representative Brian Baird
Representative Norman Dicks
Representative Jennifer Dunn
Representative Richard Hastings
Representative Jay Inslee
Representative Rick Larsen
Representative Jim McDermott
Representative George Nethercutt
Representative Adam Smith

Intergovernmental Advisory Committee (to the Regional Ecosystem Office)

Anne Badgley
U.S. Fish and Wildlife Service
Elaine Brong
Bureau of Land Management, OR/WA
Kent Connaughton
USDA Forest Service, Region 5
Merv George, Jr.
CA Indian Forest and Fire Management Council
Linda Goodman
USDA Forest Service, Region 6
Bob Graham
Natural Resources Conservation Service
Peter Green
Office of the Governor, State of Oregon
David Herrera
Northwest Indian Fisheries Commission
Colonel Richard Hobernicht
U.S. Army Corps of Engineers
Jon Jarvis
National Park Service
Anne Kinsinger
U.S. Geological Survey
Robert Lohn
National Marine Fisheries Service
Albert McKee
Representative of Washington Counties
Rocky McVay
Association of O & C Counties
Mary Nichols
California Resources Agency
Robert Nichols
WA State Senior Executive Policy Assistant
Jennifer Orme-Zavaleta
Environmental Protection Agency
Michael Pool
Bureau of Land Management, CA
Dave Powers
Environmental Protection Agency
George Smith
Intertribal Timber Council
Stan M. Speaks
Bureau of Indian Affairs
Bob Szaro
USDA Forest Service, PNW
John Woolley
Representative of California Counties

Federal Agencies

Advisory Council on Historic Preservation
Bonneville Power Administration
Environmental Protection Agency
Environmental Resources Center
Geographic Implementation Unit
Operations Office
Region 9
Region 10
Federal Energy Regulatory Commission
Klamath Soil & Water Conservation
Portland Federal Executive Board
Regional Ecosystem Office
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Environmental Coordinator of Ecological Services
Forest Service
Pacific Northwest Regional Office and Forests
Pacific Southwest Regional Office and Forests
Pacific Northwest Research Station
Pacific Southwest Research Station
National Agriculture Library
Natural Resource Conservation Service
OPA Publication Stockroom
U.S. Department of Commerce
NOAA Fisheries (National Marine Fisheries Service)
U.S. Department of Defense
Army Corp of Engineers
PE PF
Seattle District
Walla Walla District
Naval Submarine Base Bangor
U.S. Department of Energy
U.S. Department of Interior
Bureau of Indian Affairs
Bureau of Land Management
National Park Service
Office of Environmental Policy and Compliance
Bureau of Reclamation

National Park Service
Ft. Vancouver National Historic Site
Office of the Regional Solicitor
Office of the Secretary
U.S. Fish and Wildlife Service
U.S. Geological Survey
Biological Resources Division
Pacific Northwest District
U.S. Department of Justice
U.S. Ecosystem Restoration Office
U.S. Small Business Administration
U.S. Department of Transportation
Highway Division
Federal Highway Administration

State, County, and Local Governments

California
State of California
Caltrans
Department of Forestry
Department of Forestry and Fire Protection
Department of Water Resources
Fish and Game Commission
Lands Commision
Office of the Governor
Parks and Recreation
Resources Agency
State Clearinghouse
California Regional Water Quality
City of Yreka
Colusa County, Agriculture Department
Del Norte County Board of County Supervisors
Eel - Russian River Commission
Glenn County
Agriculture Department
Board of Directors
Board of Supervisors
Coop Extension Office
Planning Department
Humboldt County Board of Supervisors
Lake County Board of Supervisors
Mendocino County
Board of Supervisors
Cooperative Extension
Planning Department
Water Agency
North California Water Association
Pinecrest Permittees Association
Shasta County Board of Supervisors
Siskiyou County
Administrators
Board of Supervisors
Sonoma County Conservation Action
Tehama County
Board of Supervisors
Planning Department
Trinity County, Board of County Supervisors

Colorado
San Miguel County

District of Columbia
Rural Utilities Service

Oregon
State of Oregon
Department of Agriculture
Department of Energy
Department of Environmental Quality
Department of Fish & Wildlife
Department of Forestry
Department of Geology and Mineral Industries
Department of Human Resources
Department of Revenue
Department of Transportation
Employment Department
Executive Department
Farm Bureau Federation
Historic Preservation Office
Marine Board
Office of The Governor
Parks And Recreation
Police
Public Interest Research Group
Small Business Administration
Water Resources Department
Association of O&C Counties
Association of Oregon Counties
City of Cottage Grove
City of Eugene, Parks and Recreation District
City of Klamath Falls
Coos County Board of Commissioners
Curry County Board of Commissioners
District 17 Watermaster
Douglas County
Board of Commissioners
Natural Resources

Conservation Service
Planning Department
Hood River County
Jackson County Commissioners
Jefferson County Commissioners
Josephine County
Courthouse
Forestry Department
Planning Department
Klamath Basin Water Resources Advisory Commit
Klamath County
Klamath County Commissioners
Klamath Irrigation District
Lake County
Lane County Commissioner
Meadows Drainage District
Mohawk Watershed Planning Group
Northwest Power Planning Council
Portland Chamber of Commerce
Portland Water Bureau
Rogue Institute of Economy And Ecology
Rogue Valley Council of Governments
Southeastern Oregon Advisory Council
Umpqua Regional Council of Governments
Wasco County Commissioners

Washington

State of Washington
Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources
Department of Transportation
Executive Policy Office
Office of The Governor
Chelan County Planning Department
City of Port Townsend
Clallam County Commisioner
Forks Chamber of Commerce
Jefferson County Commissioners
Lewis County Commissioners
Mason County Commissioner
Skagit County
Skamania County Planning Department
Washington State Association of Counties
Washington Environmental Council

American Indian Tribes and Nations

Big Valley Rancheria
Blue Lake Rancheria
Columbia River Inter-Tribal Fish Commission
Colville Confederated Tribes
Colville Tribal Office
Confederated Tribes of Grande Ronde Indians
Confederated Tribes of Lower Coos
Confederated Tribes of Siletz Indians of Oregon
Confederated Tribes of The Chehalis Reservation
Confederated Tribes of The Warm Springs Reservation of Oregon
Coquille Indian Tribe
Covelo Indian Community
Cow Creek Band of Umpqua Tribe of Indians
Cowlitz Indian Tribe
Cowlitz Wahkiakum Council of Government
Coyote Valley Rancheria
Elk Valley Rancheria
Grindstone Rancheria
Hoh Tribe
Hoopa Tribal Fisheries Department
Hoopa Valley Tribal Council
Intertribal Timber Council
Jamestown S'kallam Tribe
Kalapooya Sacred Circle Alliance
Karuk Tribe of California Klamath General Council
Klamath Indian Game Commission
Lower Elwha S'klallam Tribe
Lummi Indian Business Council
Lummi Tribe of The Lummi Reservation
Makah Tribe
Muckleshoot Indian Tribal Council
Native American Heritage Committee
Native American Program Oregon Legal Services Corp.
Nisqually Indian Community Council
Nooksack Indian Tribal Council
Northwest Indian Fisheries Commission
Paskenta Band of The Nomlaki
Point-No-Point Treaty Council
Port Gamble Band of S'klallam Indians
Puyallup Tribal Council
Quinault Indian Nation

Reservation Ranch
Resighini Rancheria
Robinson Rancheria Pomo Indian Tribe
Rohnerville Rancheria
Round Valley Indian Tribes
Samish Indian Tribe
Sauk Suiattle Indian Tribal Council
Shasta Nation
Shoalwater Bay Tribal Council
Siletz Tribal Council
Snohomish Tribe
Squaxin Island Tribal Council
Stillaguamish Board of Directors
Suquamish Tribal Council
Swinomish Indian Tribal Community
Table Bluff Reservation
The Klamath Tribes
Tolowa Nation
Tsnungwe Council
Tulalip Board of Directors
Twin Rocks Inholders
Upper Lake Rancheria
Upper Skagit Indian Tribal Council
Yakama Indian Nation Tribal Council
Yurok Tribe

Businesses

Adobe Rose
Alder Creek Lumber Co.
Alpha World International Corp.
American Forest and Paper Assn.
American Forest Resource Council
American Forestry Association
American Rivers, Inc.
Amerititle
Armco
Associated Oregon Industries
Associated Oregon Loggers
Avison Lumber Co.
B&B Logging
B.S. Roads, Inc.
BAC Logging
Barnes & Associates, Inc.
Berry Botanical Garden
Blue Lake Forest Products, Inc
Boise Cascade Corporation
Brecher & Volker LLP
Brewley, Inc.
Brisbane
Burlington Northern, Inc.
Buse Timber & Sales, Inc.
C & D Lumber Co.
C.E. Exploration Co.
California Nickel Corporation
Carson Helicopters
Cascade Timber Consulting
Cavenaugh Forest Industries
CH2M Hill Northwest
Clear Creek Copters, Inc.
Clifford, Chance, Rogers and Wells Law Firm
Columbia Forest Products
Columbia Helicopters, Inc.
Conifer Pacific, Inc.
Consulting Foresters
Crazy Moose Ranch
Crown Pacific
Crystal Mountain
David Evans and Associates, Inc.
Deer Creek Timber, Inc.
Deixis Consultant
Douglas County Lumber Co.
Douglas Timber Operators
Dreyer Lapidos Geyer & Van Horn, Inc.
DRJohnson Lumber Co.
East Fork Lumber Co., Inc.
Edaw, Inc.
Eel River Sawmills, Inc.
Enoch Skirvin & Sons, Inc.
Ericson Air Crane Co.
Forest For The Future, Inc.
Forestry and Resource Consulting
Freres Lumber Co., Inc.
Freshwater Farms
Future Logging Co.
Galea Wildlife Consulting
Gary Cook & Associates
Georgia Pacific West, Inc.
Georgia Pacific Corporation
Giustina Land & Timber Co.
Glide Lumber Co.
GSD Associates, Inc.
Gustin Enterprises
Haglund, Kirtley, Kelley and Horngren
Hampton Tree Farms
Harwood Products
Hendrix Enterprises
Herbert Lumber Co.
High Cascade, Inc.
Hillcrest Vineyard
Huffman &Wright Timber Corporation
Hull Oakes Lumber Co.
Hydro Energy Development Corporation
Independent Thinning
Indian Hill LLC
Indian Hill Timber Co.
Industrex Unlimited
International Paper

J. Davidson & Sons Construction
Jeld Wen, Inc.
K.D. Logging
Keller Lumber Co.
Ken Sorenson Logging, Inc.
Klamath Insurance Center
Klamath Potato Growers Association
Kogap Manufacturing Co.
Land & Water Consulting, Inc.
Laughing Horse Book Store
Law Office of Nancy Page
Lee Enterprises
Leo Miller Contracting
Logging Engineering Int., Inc.
Lone Rock Timber Co.
Longview Fibre Corporation
Lusignan Forestry, Inc.
M&A Broken Limb
Madroak Logging
Marys River Lumber
Mason Bruce & Girard, Inc.
Mater Engineering, Ltd.
Matesol
McFarland Cascade
McKenzie River Guides
Merlin Biological
Merrill & Ring
Mountain Title Company
Mt. Hood Meadows
New Creation Logging
Northwest Forest Resources
Northwest Forestry Association
Northwest Mining Association
Northwest Mycological Consultants, Inc.
Northwest Timber Review
Northwest Whitewater Excursions
NRM Corp
Offices of Marin Psychological Services
Oregon Forest Industry Council
Oregon Zoo
Overland Express
Pacific Northwest Ski Areas Assn.
Pacific Power and Light
Pan Pacific Forestry
Perkins Coie LLP
Perpetual Forest Resources
Phillips Petroleum Co.
Plum Creek Timber Co.
Public Timber Purchasers Group
Quafco
Rayonier, Inc.
Resource Recovery Group, Inc.
Resources Northwest Consultants
Richard L. Willis Logging
Roberts Cummings, Inc.
Rocking C Ranch
Rogue Forest Protective Association
Rosboro Lumber Co.
Roseburg Forest Products
Rough & Ready Lumber Co.
Ruth Jewelry
Salt Springs Logging
Saltman and Stevens, P.C.
SDS Lumber Company
Seneca Jones Timber Co.
Seneca Sawmill Company
Sequoia Associates
Sierra Pacific Industries
Silver Butte Timber
Simpson Door Co.
Simpson Investment Co.
Siskiyou Coop., Inc.
Snowy Butte Helicopters
South Umpqua State Bank
Sparkling and Son, Inc.
Spider Webb Ent., Inc.
Starfire Lumber Co.
Stevens Pass
Superior Lumber Co., Inc.
Sustainable Northwest
Swanson Group
Swanson Superior Forest Product, Inc.
T.H. Ireland, Inc.
The Nicholoff Company
The Timber Company
Thinking, Inc.
Thomas Lumber Co.
Three Rivers Logging Co.
Timber Data Company
Timber Products Co.
Timberland Logging
Trinity River Lumber Co.
Umpqua Watersheds, Inc.
US Forest Industries, Inc.
US Timberlands Klamath Falls LLC
Wards Creek Logging
Washington Belt & Drive Systems
Washington Contract Loggers Association
Washington Forest Law Center
Westbrook Land and Timber
Western Forest Protection Association
Western Timber Co.
Western Wood Products Association
Westest Logging
Weyerhauser Co.
Wildlife Management Institute
Wilkins, Kaiser, & Olsen
Willamette Industries
Wolfe's Guide Service
Woody Contracting, Inc.
Woolley Enterprises, Inc.
WTD Industries, Inc.

Other Organizations

1000 Friends of Oregon
1000 Friends of The Earth
Alameda Creek Alliance
Allegheny Defense Project
Alpine Lakes Protection Society
American Alpine Institute
American Fisheries Society
American Lands
American Lands Alliance
Ancient Forest Defense Fund
Applegate Partnership
Applegate River Watershed Council
Arc-En-Ciel
Association of Northwest Steelheaders
Association of Oregon Counties
Audubon Society
- Altacal
- Black Hills
- Columbia Gorge
- Corvallis
- Golden Gate
- Grays Harbor
- Kalmiopsis
- Kitsap
- Kittitas
- Klamath Basin
- Leavenworth
- National
- N. Central Washington
- Pilchuck
- Portland
- Rainier
- Redwood Chapter
- Rogue Valley
- San Juan Islands
- Seattle
- Siskiyou
- Spokane
- Umpqua Valley

Bark
Baron Family Partnership
Basketweavers Project
Bike To Nature
Biodiversity Northwest
Blue Ribbon Coalition
Breitenbush Community
Breitenbush Hot Springs
Brownsville Pioneer Saddle Club
Butte Falls Advocates
California Cattlemens Association
California Coalition for Alternatives to Pesticides
Californians For Alternatives to Toxins
California Lichen Society
California Native Plant Society
California Trout
California Wilderness Coalition
Canadian Museum of Nature
Cascadia Forest Alliance
Cascadia Wildlands Project
CATs
Central Cascades Alliance
Central Oregon Motorcycle and ATV Club
Central Valley WQCB
Cheetwoot Wilderness Alliance
Chehalis Business Council
Chehalis River Council
Citizens For Better Forestry
Citizens Interested In Bull Run
Clackamas-Marion Forest Protection Assn.
Claggett Creek Watershed Council
Coalition on Environment & Jewish Life
Coast Range Association
Columbia Basin Wildlife Association
Communities for a Great Oregon
Concerned Friends of Ferry County
Concerned Friends of the Winema
Corvallis Forest Issues Group
Cottage Grove Historical Society
Deer Creek Valley Natural Resource Conserve
Defenders of Wildlife
Drift-A-Way Snowmobile Club
Ducks Unlimited-South Oregon
Earth Justice Legal Defense Fund
Ecoforestry Institute
Ecology Center of Southern California
EF! Wolf Action Network
Endangered Species Coalition
Environmental Protection Information Center
Environmental Resources Center
Essex Junction Environmental Group
Forest Conservation Council
Forest Guardians
Forest Issues Group
Forest Landowners of California
Four Runners Four Wheel Drive Club
Franciscan Sisters of the Poor
Friends of Clackamas River
Friends of Del Norte County
Friends of the Greensprings
Friends of The River
Friends of Trees
Gifford Pinchot Task Force
Global Peoples Assembly Network
Grants Pass & Josephine County Chamber of Commerce
Grants Pass Nordic Club
Great Lake United
Greystone
Headwaters
High Country Citizens Alliance
High Desert Trail Riders
Hood Canal Coordinating Council
Humanity
Inland Empire Public Lands Council
Institute for Applied Ecology
Institute for Policy Research
Izaak Walton League of America
Keep Oregon Green
Keslick and Son Modern Arboriculture
Kettle Range Conservation Group
Klamath Basin Snowdrifters
Klamath Forest Alliance
Klamath Historical Society
Klamath Siskiyou Wildlands Center
Klamath Yacht Club
La Canada Flintridge Trails Council
Land and Water Fund of the Rockies
Lassen Forest Preservation Group
League of Wilderness Defenders-
League of Women Voters of Lane County
Lincoln County Mycological Society
Little River Committee
M.U.D.D.
Marion County Water Watch
Mattole Salmon Group
Mazama Conservation Committee
McKenzie Guardians
McKenzie River Trust
McKenzie Watershed Council

Mendocino Environmental Center
Mendocino Forest Watch
Moose School Productions
Mt. Mazama Mushroom Association
Mt. Adams Adopt-A-District
National Association of Conservation
National Resources Conservation Service
National Wildlife Federation
Native Fish Society
Native Plant Society of Oregon
Audubon
Siskiyou Chapter
Nature Conservancy
Washington
Nature Society
NCASI West Coast Regional Center
North Applegate Watershed Association
North Coast Recreation Coalition
Northcoast Environmental Center
Northwest Ecosystem Alliance
Northwest Environmental Defense Center
Northwest Old-Growth Campaign
Northwest Rafters Association
Northwest Coalition For Alternatives To Pesticides
Nuview -Evaluation & Learning
Oak Ridge National Laboratory
OFREG
Olympic Forest Coalition
Olympic Natural Resources Center
Olympic Rivers Council
Oregon Bicycling Advisory Committee
Oregon Cattlemans Association
Oregon Coast Mycological Society
Oregon Council Rock and Mineral Clubs
Oregon High Desert Museum
Oregon Historical Society
Oregon Hunters Association
Oregon Independent Miners/BMOA
Oregon Institute of Technology
Oregon Lands Coalition
Oregon Mycological Society
Oregon Natural Desert Association
Oregon Natural Resources Council
Oregon Park Associates
Oregon Shares Conservation Coalition
Oregon Sheep Growers Association
Oregon Small Woodlands Association
Oregon Trail Coordinating Council
Oregon Trout
Oregon Waterfowl and Wetlands Oregon Wetlands Joint Venture
Oregon Wildlife Federation
Oregonians for Action
Oregonians for Food and Shelter
Ouachita Watch League
Pacific Biodiversity Institute
Pacific Coast Federation of Fisherman's Assn.
Pacific Crest Trail Association
Pacific Northwest 4 Wheel Drive Assn.
Pacific Rivers Council
Pacific Wildlife Research
PEER
People for the USA Happy Camp
Predator Conservation Alliance
Public Lands Foundation
Reed College Forest Watch
River Network
Rocky Mountain Ecosystem Defense
Rogue Fly Fishers
Roseburg Resources
Rural Information Network
Santiam Wilderness Committee
Save Our Klamath Jobs
Seattle Lichen Guild
Shenandoah Ecosystems Defense Group
Sierra Club
Cascade Chapter
Illinois Valley
Many Rivers Group
Northern Great Plains
Northwest
New York City Chapter
Plant Society
Redwood Chapter
Rogue Group
Tillamook
Yahi Group
Sierra Club Legal Defense Fund
Siskiyou Project
Siskiyou Regional Education Project
Smith River Advisory Council
Smith River Alliance
SOCATS
Society for Range Management
Society of American Foresters
South Carolina Forest Watch
Southern Apalachian Biodiversity Project
Southern Oregon Alliance for Resources
Southern Oregon Forest Coalition
Southern Oregon Timber Industry Association
Southern Willamette Earth First!
Steamboaters
Stillwater Sciences
Stop Oregon Litter and Vandalism
Sublette Riders Association
Sutherlin Watershed Action Committee
Takilma Watershed Committee
TELAV
The Cascadians
The Ecology Center
The Nature Conservancy
The Ptarmigans
The Wilderness Society
Northwest Regional Office
Trees of Mystery
Trout Unlimited
Umpqua Watersheds, Inc.
United Anglers of California
University of Oregon, Survival Center
Vancouver Wildlife
Washington Wilderness Coalition
Washington State Hi-Lakers
Washington State Snowmobile Association
Washington Trout
Washington Wilderness Coalition
Water For Life
WELC
West Montana Mycological
Western Environmental Law Center
Western Fire Ecology Center
Western Forest Industries Association
Western Forestry & Conservation Association
Western Mining Council
Wetlands Conservancy
Wilderness Watch
Northwest Chapter
Wildlife Society, Oregon Chapter
Willamette Provincial Advisory Committee
Willits Environmental Center
World Wildlife Fund

Xerces Society

Libraries, Schools, and Universities

Central Washington University
Colorado State University Libraries
Evergreen State College
    Env Resource Center
Humboldt State University,
    Department of Biological Sciences
    Forestry Department
Klamath County Library
Klamath Union High School
Land-Air-Water Law Center
Lane Community College Library
Mazama High School
Oregon State University
    Botany Department
    Extension Office
    Lichen & Bryophyte Study Group
Peninsula College
Salem State College, Dept of Geography
Southern Oregon University, Library
State of Illinois University
University of Alabama
University of California Physics Department
University of Hawaii
University of Massachusetts
University of Oregon
    Documents Department
    Library
University of Washington
Utah State University
World Botanical Association

Media

Ashland Daily Tidings
Environmental Media Services
The Associated Press
The Chronicle
The Columbian
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Katherine Farrell has 15 years experience working for the Forest Service in planning. She has been involved in numerous planning efforts including timber sales, range allotment plans, Wild and Scenic River management plans, land exchanges, watershed analyses, and recreation projects. She is currently Writer-Editor for the Lookout Mountain Ranger District of the Ochoco National Forest.

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Ken Wieman has 15 years experience with the Forest Service. His Forest Service career started at Mt. St. Helens National Volcanic Monument, where he focused on steam restoration and stream inventory in the post volcanic eruption era. He has worked as an aquatics resource specialist on many planning teams including two Environmental Impact Statements. During the past 9 years he has been District Fish Biologist at the Mt. Adams Ranger District, focusing on Threatened and Endangered Species recovery efforts including stream monitoring and evaluation and watershed restoration projects.

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Kelly Wolcott has been a wildlife biologist and National Wildlife Refuge Manager with the Federal government for over eighteen years. He has provided leadership in streamlined consultations and implementation of the Northwest Forest Plan in Northern California for over five years while working for both the U.S. Fish and Wildlife Service and the U.S. Forest Service. Prior to working with the Northwest Forest Plan, Kelly also managed three National Wildlife Refuges, worked for the U.S. National Park Service, the Costa Rican National Park Service, ran an environmental education center, and worked as a biologist for several independent consulting firms.

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APPENDIX A

SELECTED RECORDS

REGIONAL ECOSYSTEM OFFICE

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MEMORANDUM

DATE: November 9, 1999

TO: Regional Interagency Executive Committee Members
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Roger Blair, Western Ecology Division, Environmental Protection Agency
John D. Buffington, USGS Biological Resources Division
Mike Collopy, USGS Biological Resources Division
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Roberta Moltzen, Deputy Regional Forester, Forest Service
Michael J. Spear, Operations Office Manager, U.S. Fish and Wildlife Service
John Engbring, Operations Office, U.S. Fish and Wildlife Service
Alfred Wright, Acting State Director, Bureau of Land Management
Paul Roush, Bureau of Land Management

FROM: Curtis A. Loop, Acting Executive Director

SUBJECT: Regional Ecosystem Office Analysis and Interpretation of Three Issues Related to Northwest Forest Plan Requirements for Aquatic Conservation Strategy Consistency Determinations

Enclosed is the Regional Ecosystem Office (REO) final report to the Regional Interagency Executive Committee (RIEC) in response to its December 17, 1998, request for facilitation of discussions seeking interagency agreement clarifying Record of Decision (*ROD*) interpretation for several questions related to implementation of the Aquatic Conservation Strategy (ACS). Pursuant to direction provided during the October 6, 1998, November 5, 1998, and October 20, 1999, RIEC meetings, and in the December 17, 1998, memorandum transmitting the request, we completed discussions on three ACS interpretation issues:

- NFP Record of Decision (*ROD*) requirements for determining project consistency with ACS objectives.

- The role of Standards and Guidelines (S&Gs) that mitigate the effect of new road construction on aquatic resources.

- The role of Late-Successional Reserves and designated roadless areas as components of the ACS.

Also in response to the December 17, 1998, guidance regarding specific roles of the REO for review of these issues, we have sought to:

- Facilitate interagency and interdisciplinary discussions of the issues and questions by agency scientists, resource experts, and legal counsel.
- Summarize science, legal, and policy information and findings from these discussions.
- Apply the information and findings in seeking interagency agreement on responses to the referred questions.
- Help agencies develop methods or procedures for implementing the agreements by field units.
- Recommend appropriate follow-up actions or investigations.

Summary and Conclusions

Following is a summary of the ACS Interagency Review Managers Teams' findings. This summary does not stand alone. It is essential that you refer to the enclosed document for a more complete discussion of the Teams' efforts in development of joint agency positions on the above issues.

ISSUE: NFP Record of Decision (*ROD*) requirements for determining project consistency with ACS objectives.

- The *ROD* established the nine ACS objectives as S&Gs that apply across all land allocations.
- The ACS objectives serve as broad landscape management objectives, directed at the watershed-scale, to be achieved over time by maintaining and restoring natural processes through implementation of the NFP. In addition to this broad landscape role, the *ROD* also established the ACS objectives as S&Gs that apply to all actions by their inclusion in Section B of Attachment A of the ROD.
- When assessing the effects of actions on relevant ACS objectives, multiple analytical scales may be required, depending on the nature and scope of the action and the particular ACS objective. However, the watershed-scale (the scale of watershed analysis) is the appropriate landscape context for determining whether actions are consistent with the ACS objectives.
- The *ROD* does not explicitly establish a standard temporal scale for evaluating project consistency with ACS objectives. Selection of a temporal scale depends on existing watershed conditions and the existing watershed recovery trajectory and, regarding specific projects, must consider the temporal nature of potential impacts.
- There is no *ROD* requirement to assess cumulative effects when making ACS consistency findings. Cumulative effects are analyzed in watershed analysis, National Environmental Policy Act (NEPA) processes, and Endangered Species Act (ESA) consultations.
- Watershed analyses typically provide the necessary contextual information for making ACS consistency

determinations. If watershed-scale information needed for making ACS consistency determinations is not available (e.g., from existing watershed analysis, NEPA analysis, ESA consultations) then new or updated watershed analysis may be required, even outside of Key Watersheds and Riparian Reserves.

ISSUE: The role of Standards and Guidelines (S&Gs) that mitigate the effect of new road construction on aquatic resources.

- The S&G WR-3 (Do not use mitigation or planned restoration as a substitute for preventing habitat degradation) is intended to ensure that agencies do not rely on watershed or habitat restoration projects as mitigation to allow avoidable impacts from projects planned in Riparian Reserves.

- This S&G does not preclude consideration of restoration projects that reduce road mileage in Key Watersheds to offset new road construction. Nor does it obviate the need to comply with the many other S&Gs designed to minimize the effects of new road construction.

- The scale at which the no net road mileage increase standard is applied is the Key Watershed scale.

- The baseline road mileage against which new road construction is compared is the mileage that existed on May 13, 1994, the effective date of the *ROD*.

- The term road decommissioning is not expressly defined in the *ROD*, however, the intent is to evaluate and reduce existing road related impacts to meet ACS objectives. Road mileage reductions need to occur prior to or concurrent with new road construction in Key Watersheds.

ISSUE: The role of Late-Successional Reserves and designated roadless areas as components of the ACS.

- LSRs are an important component of the ACS, however, there is no requirement in the *ROD* for LSR Assessments to address ACS objectives.

- ACS objectives are addressed in NEPA documents, supported by information from watershed analysis.

- Roadless areas, both in and outside Key Watersheds, have additional S&Gs designed to protect water quality because of identified concerns over unstable lands. Watershed analyses is required prior to management activities in all watersheds that contain roadless areas.

- Inside Key Watersheds, no new roads are to be built in remaining roadbeds areas.

This report is a product of an interagency process that would not have been possible without the expert knowledge and assistance provided by members of all staff involved. Thank you for the opportunity to work on this issue. Please let me know if we can provide any additional information or answer any questions about our review.

Enclosure: July 21, 1999 Draft 1357_ver2

cc:
ACS Interagency Review Managers Team Members

RIEC 4
IAC Members
REO Representatives
General Counsel Northwest
Office of General Counsel
Office of the Solicitor

1439/sm

RIEC 5

Response to the January 17, 1999 Regional Interagency Executive Committee Request for REO Assistance in Facilitating Interagency Agreement on Four Aquatic Conservation Strategy Issues

Introduction

On January 17, 1999, the Regional Interagency Executive Committee (RIEC) requested that the Regional Ecosystem Office (REO) facilitate a process for reaching interagency agreement on the interpretation of four issues regarding Northwest Forest Plan (NFP) requirements for determining the consistency of proposed land management actions with the Aquatic Conservation Strategy (ACS). Three of these issues, which arose from recent efforts to complete Endangered Species Act (ESA) consultations on listed fish species, are:

1. NFP Record of Decision (*ROD*) requirements for determining project consistency with ACS objectives.

2. The role of Standards and Guidelines (S&Gs) that mitigate the effect of new road construction on aquatic resources.

3. The role of Late-Successional Reserves and designated roadless areas as components of the ACS.

In response to this request, the REO convened a team of senior agency managers who have been meeting regularly to address these issues. Since none of the issues were new, the RIEC made it clear that they intended for the interagency effort to start with a review of previous guidance and direction that had been issued on the subjects and to seek a higher level of interagency agreement on the previous interpretations. The interagency manager's team began the review by establishing teams comprised of senior technical staff to address each of the ACS issues. These technical teams in turn compiled and reviewed existing guidance and direction pertaining to the subject issues, as well as all relevant NFP *ROD* citations. Recognizing that the *ROD* established the legal direction for these issues, the technical teams also reviewed pertinent references from the FEMAT Report and FSEIS documents, which offered insight into the purpose and intent of some of the *ROD* requirements.

Each of the technical teams presented its reports to the Mangers Team, and incorporated changes based on interagency discussions and agreements reached during those meetings. Each of the technical teams completed stand-alone reports, which include extensive references and discussion. What follows are condensed versions of the technical team reports, presented in question and answer format, which respond directly to the ACS issues referred by the RIEC. The responses represent full and unanimous agreement among the agencies participating in the review on the stated interpretations.

Proposed Interagency Interpretations

ISSUE:NFP Record of Decision requirements for determining project consistency with ACS objectives.

The RIEC asked the REO to facilitate interagency agreement in clarifying *ROD* requirements for determining and documenting the consistency of projects with ACS objectives. To focus this interpretation, the RIEC identified four questions.

Question #1: *What is the relationship of the nine ACS objectives (ROD, B-11) with individual or groups of land management actions? Are the ACS objectives intended to be Standards and Guidelines for individual projects? Must they be addressed individually or collectively when determining project consistency with the objectives? Are they instead broad objectives to be achieved across the landscape through the collective effect of all management actions, but not applied to individual projects?*

Based on the language in the *ROD* in both the outline to Attachment A and on pages B-9, B-10, and B-11, it is clear that the ACS objectives are considered S&Gs that apply to all management activities on Forest Service and BLM lands within the NFP area.

The *ROD* (Attachment A, page i) indicates that the six sections of Attachment A collectively comprise the complete set of S&Gs that direct how the NFP is implemented. Two of the sections are particularly relevant to the ACS. Section B is where the ACS is described, including a background discussion of the objectives and management emphases for Riparian Reserves, Key Watersheds, watershed analysis, and watershed restoration. Section C includes specific S&Gs that apply to certain types of projects and land allocation categories, including the Riparian Reserve and Key Watershed land designations. Following the guidance in both Section B and Section C is required to implement projects consistent with the ACS.

As originally developed, the ACS objectives serve as broad landscape management objectives, directed at the watershed-scale, to be achieved over time by maintaining and restoring natural processes through implementation of the NFP. In addition to this broad landscape role, the *ROD* also established the ACS objectives as S&Gs that apply to all actions by their inclusion in Section B of Attachment A. The S&Gs in Section C of the *ROD* were developed to regulate management actions in a way that promotes the attainment of these landscape-scale objectives by focusing the review of proposed management actions to determine compatibility with the ACS objectives (*ROD*, B-10). However, the S&Gs in Section C do not by themselves always guarantee that actions will be consistent with ACS objectives, in part due to the need to consider the results of watershed analysis. Thus, the *ROD* requires decision makers to confirm (i.e., make findings) that projects that comply with the S&Gs, either meet, attain, or do not retard or prevent attainment of the ACS objectives. This requirement applies to all FS and BLM management actions in the NFP, not just actions within Key Watersheds and Riparian Reserves.

The *ROD* does not explicitly address whether the nine ACS objectives should be considered individually or collectively when assessing projects. Either approach may be appropriate, depending on local circumstances. Regardless of the approach used, it must culminate in a synthesized conclusion of overall ACS consistency that considers all of the ACS objectives relevant to a given action. Consideration of the objectives individually may facilitate the decision maker's ability to differentiate and address those objectives affected by a given action. Consideration of the objectives collectively may facilitate the decision makers ability to derive an overall conclusion of ACS consistency without the potentially difficult task of aggregating the results of individual objective assessments.

Question #2: *What are the appropriate temporal and spatial scales for determining project consistency with the ACS objectives?*

RIEC 3

The *ROD* is explicit that watershed analysis will be used to establish the appropriate geographic context for assessing the baseline condition and evaluating whether actions are consistent with the ACS objectives (*ROD,* B-10, B-20, B-23, B-30). Watershed analysis has been performed on a variety of spatial scales, ranging from the 4th field USGS hydrologic unit code scale down to the 7th field subwatershed-scale. The *ROD* defined the watershed-scale as approximately 20-200 square miles, which generally corresponds with the scale of the 5th field USGS hydrologic unit code hierarchy.

In general, the ACS provides a framework for managing aquatic ecosystems primarily at watershed and landscape (i.e., multiple watershed) scales. The ACS objectives describe the attributes and distribution of aquatic ecosystems believed necessary to provide conditions for maintaining currently strong populations of fish and other aquatic and riparian dependent organisms and to recover currently degraded ecosystems. To account for the dynamic nature of conditions within watersheds, the ACS objectives also focus on maintaining aquatic ecosystems within the natural range of variability at the site, subwatershed, and watershed-scales. Please refer to Benda et al. (1998) for a discussion of landscape system dynamics.

Because the ACS was designed to maintain and restore ecosystem health at watershed and landscape scales, rather than the scale of individual projects, the *ROD* established watershed analysis at the 5th field watershed-scale as the appropriate geographic context for assessing the consistency of actions with the ACS. The results from watershed analyses completed at scales other than the 5th field watershed may also be useful when making ACS consistency findings. For instance, some 5th field watersheds may be too large or complex ecologically to be analyzed effectively. Watershed analysis, as a consequence, has been conducted in 5th field and aggregates of 6th field watersheds.

Although the 5th field watershed-scale provides the appropriate geographic context for assessing ACS consistency, it is important to note that the ecosystem functions and processes represented by the ACS objectives operate at multiple scales, including site, reach, subwatershed, watershed, river basin and population. Similarly, the effects of land management activities on these functions and processes can occur at multiple scales, depending on the scope and magnitude of the action, current baseline conditions, and the sensitivity of the affected resources. Before a decision maker can assess whether an action would retard or prevent attainment of ACS objectives, the full extent of project effects to aquatic ecosystem objectives must first be assessed. Assessments of project effects should address the spatial scales that are relevant to the proposed action and for the ACS objectives that would be affected.

In summary, determining consistency at the site scale requires understanding of the required range of variability established at watershed, provincial, or regional scales. An action that results in a degraded condition at individual sites or degraded subwatersheds cannot always be interpreted as failure to comply with the ACS. To make findings of an action's consistency with the ACS, the decision maker must take into consideration the scope and magnitude of the action's effects, both positive and negative, at scales appropriate for the relevant ACS objectives. Such findings should ensure the conservation of the natural range of variability at the watershed level. Actions with similar effects might be considered consistent with the ACS in one watershed and not in another depending on the significance of the action within each watershed context.

Temporal scales relevant to the individual ACS objectives may vary with the spatial scales embodied in the objectives. Generally, as spatial scales increase, the relevant temporal scales associated with the objectives also increase, but the frequency for iterative analyses decreases (*ROD,* B-22). For example, project or stream reach-scale effects might best be viewed using temporal scales of months to years, and justify more frequent assessment iterations, while watershed and broader landscape-scale processes and effects would likely be more relevant over longer time scales; e.g., years to decades, but generally warrant less frequent analysis.

The *ROD* does not explicitly establish a standard temporal scale for evaluating project consistency with ACS objectives. Selection of a temporal scale depends on existing watershed conditions, and the existing watershed recovery trajectory, and, regarding specific projects, must consider the temporal nature of potential impacts. For instance, in the case of restoration projects, short-term negative impacts can be

significant, and should be clearly offset by long-term benefits. The *ROD* recognizes that "[b]ecause the ACS is based on natural disturbance processes, it may take decades, possibly more than a century, to accomplish all of its objectives. Some improvements in aquatic ecosystems, however, can be expected in 10 to 20 years." (*ROD*, B-9). In evaluating consistency with ACS objectives, field units have generally recognized that adverse effects of management actions that last several years may still be consistent with ACS objectives if they do not affect the underlying processes and functions, have significant long-term benefits, and do not have short-term effects with watershed-scale significance (e.g., compromise the persistence of local species). On the other hand, effects that impact watershed-scale processes or functions or that persist for a decade or longer would impair the attainment of ACS objectives and would be inconsistent.

Question #3: *Should ACS consistency determinations address the cumulative effects of multiple management actions or groups of projects? If so, at what scale and using what methods? If individual actions are assessed individually during ACS consistency determinations, how can the cumulative effect of multiple projects be assessed?*

The *ROD* does not explicitly require that cumulative effects be considered when making ACS consistency findings. However, the requirement to use watershed analysis reports to establish the geographic context for evaluating project compliance with ACS objectives necessarily requires aquatic analysts and decision makers to consider the cumulative effect of past management activities that have, and continue to affect processes throughout the watershed, as reflected in the characterization of current conditions in the watershed, and anticipated future conditions.

By using watershed analysis reports to address cumulative effects when evaluating the consistency of actions with ACS objectives, the role of non-federal lands in the watershed is also considered. Thus, given that cumulative effects accruing on non-federal land may affect federal managers' ability to achieve ACS consistency, existing interagency direction for conducting watershed analysis is clear on the importance of considering non-federal lands in the analysis:

"Even though the Federal watershed analysis process is in no way intended to regulate non-Federal lands, analysis teams, as guided by responsible officials, will consider the interactions of various land ownerships in the watershed. Federal land management decisions based on the results of watershed analysis need to consider conditions and activities on adjacent non-federal lands, especially to evaluate cumulative effects, as they affect public lands, pursuant to NFMA, NEPA, ESA, CWA, O&C Act, and other pertinent statutes. Consideration of these interactions is important to an overall understanding of ecological functions and processes." (*Ecosystem Analysis at the Watershed Scale: Federal Guide for Watershed Analysis*, page 11)

The Federal Guide for Watershed Analysis also describes important considerations for how non-federal lands should be addressed in watershed analysis. Notwithstanding the fact that the interactions of various land ownerships are considered during watershed analysis, the *ROD* is clear that the ACS objectives only apply to FS and BLM lands within the range of the northern spotted owl.

Consideration of cumulative effects is not limited to watershed analysis. Cumulative effects analyses are required to meet other regulatory or statutory requirements, such as the NEPA and the ESA. Within the ESA context, for example, the agencies recognize the need to consider the effects of multiple activities within a geographic area. When making effects determinations pursuant to the ESA, the agencies use analytical tools like the NMFS/FWS "Matrix of Pathways and Indicators" to assess the potential for cumulative effects of multiple management actions proposed concurrently within the same watershed. Such analyses are necessarily focused narrowly on project effects to listed salmonids, and are intended to evaluate the potential for actions to result in adverse effects on or incidental take of listed species. These analyses are not intended to address all aquatic resources intended to benefit from the ACS.

Question #4: *How should ACS consistency determinations be made where watershed analysis is not required or has not been completed?*

RIEC 5

The *ROD* requires decision makers to make findings of ACS compliance for all actions in all land allocations. Decision makers are directed to use the results of watershed analysis to make such findings. Watershed analysis is required only prior to evaluating how proposed management activities in Key Watersheds, roadless areas and Riparian Reserves meet ACS objectives. Watershed analysis is not a prerequisite for all projects or all land allocations.

In land allocations where watershed analysis is required, agencies recognize the mandate and benefit of applying watershed analysis results in making ACS consistency findings. The *ROD* specifies what information from watershed analysis is important in assessing ACS consistency; e.g., a description of existing conditions and the range of natural variability of important physical and biological components of the watershed.

In recognition of the importance of watershed analysis, the *ROD* acknowledges that "ultimately, watershed analyses should be conducted in all watersheds on federal lands as a basis for ecosystem planning and management." (*ROD*, B-20) This is consistent with the current FS and BLM approach. Many ecosystem analyses at the watershed-scale have been completed for non-Key Watersheds and the results have been used in making ACS determinations.

Team Recommendation:
Where watershed analysis is not required, the action agencies must still provide information on existing watershed conditions and the range of natural variability of important aquatic ecosystem components necessary for making ACS consistency findings. Such information may be available from sources such as NEPA analysis documents, ESA biological assessments and biological opinions, river basin or other landscape-scale assessments, field inventories, etc. There may be situations where actions are proposed for land allocations where watershed analysis is not required by the *ROD* and where there are inadequate alternative sources of watershed information necessary for making ACS consistency determinations. In these circumstances, decision makers may not be able to comply with the *ROD* requirements for assessing whether the action is consistent with ACS objectives until the necessary watershed information is available. Decision makers may find that the most expeditious process for generating the necessary information to make ACS consistency determinations in some cases may be to complete watershed analysis, notwithstanding the fact that it is not required by the *ROD*.

RIEC 6

ISSUE: The role of S&Gs that mitigate the effect of new road construction on aquatic resources.

The RIEC asked the REO to facilitate interagency agreement on an interpretation of the following four groups of questions that address NFP S&Gs for road construction.

Question 1: *Does the standard and guideline WR-3 prevent the agencies from considering or counting planned restoration project benefits (e.g., road decommissioning) as mitigation for new road construction impacts to aquatic habitat? Conversely, must each project that entails new road construction include mitigation measures to offset the marginal road impacts, or can the agencies rely on previous, ongoing, or planned [road] restoration projects to achieve the no net increase requirement from B-19 and C-7?*

This set of questions mixes two distinct issues: (1) *ROD* requirements for roads in Riparian Reserves to meet ACS objectives, and (2) the *ROD* requirement for no net increase in road density within Key Watersheds. These issues are addressed separately below.

The *ROD* S&G WR-3 (*ROD,* C-37) is under the heading "Watershed and Habitat Restoration" for actions in Riparian Reserve land allocations and states: "Do not use mitigation or planned restoration as a substitute for preventing habitat degradation." This S&G applies more broadly than to roads and is intended to ensure that the agencies do not rely on watershed or habitat restoration projects to serve as mitigation to allow avoidable impacts from projects planned in Riparian Reserves that are otherwise consistent with the ACS. Further, relying on restoration activities as mitigation may wrongly assume that the benefit from restoration is as likely as the negative impact of the planned activity.

The *ROD* recognized that adverse effects could result from new road construction (both short-term impacts from road construction activities and long-term effects from road management and increased road density on the landscape), yet did not prevent roads from being constructed. Instead, the *ROD* provided detailed S&Gs for roads in Riparian Reserves with the intent of minimizing both construction impacts and longer-term landscape impacts from road management. In addition to prescribing best management practices for specific road activities (RF-2 through RF-6; *ROD*, C-32), the S&Gs for roads in Riparian Reserves also call for interagency cooperation (RF-1), completion of watershed analysis and geotechnical analyses (RF-2, RF-3), and the development of Transportation Management Plans to ensure that road management activities meet ACS objectives (RF-7).

The *ROD* S&G WR-3 ensures that none of these *ROD* requirements for minimizing the effects of new roads in Riparian Reserves would be obviated by watershed or habitat restoration projects that some might construe as mitigation for avoidable impacts from new roads in Riparian Reserves.

In addition to S&Gs for roads in Riparian Reserves, the *ROD* also addresses road construction and maintenance activities in LSRs (*ROD*, C-16), and road treatments as a component of watershed restoration (*ROD*, B-31). The use of watershed analysis is required to determine the influence of roads on ACS objectives in Riparian Reserves, and could also be used to identify road-related impacts to aquatic systems in other land allocations. Watershed analysis is required in Key Watersheds and all roadless areas prior to resource management, to change default Riparian Reserve widths in all watersheds, and is recommended in all other watersheds (*ROD*, B-30). Additionally, all actions in all land allocations must comply with the ACS objectives (*ROD*, B-10).

Regarding the second issue embodied in this set of questions, the S&G WR-3 does not establish additional requirements for reducing road density in Riparian Reserves. The *ROD* requirements pertaining to road density are found in the S&Gs for Key Watershed land use allocations (*ROD,* C-7) and state:

"Inside Roadless Areas - No new roads will be built in remaining unroaded portions of inventoried (RARE II) roadless areas."

RIEC 7
"Outside Roadless Areas - Reduce existing system and nonsystem road mileage. If funding is insufficient to implement reductions, there will be no net increase in the amount of roads in Key Watersheds."

Outside of Key Watersheds, there are no specific S&Gs addressing road density restrictions elsewhere in the NFP area.

It is incorrect to interpret the S&G WR-3 as establishing a different baseline from which to evaluate the net change in road miles in Key Watersheds. The effective date of the *ROD* is the temporal starting point for evaluating changes in road miles in Key Watersheds. All road decommissioning activities within Key Watersheds, regardless of how they were funded, count towards the net change calculation. Similarly, all new roads are considered in this accounting. A recent report by the Research and Monitoring Group used this approach to evaluate and report the net change in road miles within all 164 Key Watersheds since the *ROD* effective date (April 1, 1999 memorandum from the Research and Monitoring Group to the RIEC).

The timing for road decommissioning to count towards the no net increase requirements in Key Watersheds is addressed in Question #4.

It should be noted that the March 18, 1997 land and resource management plan biological opinion (pages 70-72) issued by NMFS expanded the requirements of the *ROD* to reduce the potential impacts of road construction to minimize the level of incidental take of listed salmon. The opinion recognized that high road densities are correlated with impaired aquatic system functions in all watersheds, and that *ROD* S&Gs may not be specific enough to prevent incidental take at the site scale. Accordingly, the incidental take statement established additional mitigation for site specific road impacts (timing and location of construction), as well as requiring no net increase in road impacts outside of Key Watersheds. These requirements to comply with the ESA should not be confused with interpretations of *ROD* S&Gs.

Question 2: *What is the appropriate analytic scale for applying the "no net increase" standard (e.g., 6th field watershed, Key Watershed, administrative unit, etc.)? What are the baseline road mileages within the appropriate analytic unit from which to assess the "no net increase" in roads requirement?*

As explicitly stated in the *ROD*, B-19 the scale at which the no net increase standard is applied is at the Key Watershed scale. Key Watersheds vary in size, but commonly correspond with the "5th field" watershed-scale (20-200 square miles). The baseline road mileage against which new road construction is compared is the mileage that existed on May 13, 1994, the effective date of the *ROD*.

Question 3: *What specific restoration actions or mitigation measures are necessary for "decommissioning" road segments in order to remove them from the baseline inventory? Can decommissioning "skid trails" offset new road construction when meeting the "no net increase" standard?*

There are no expressly stated definitions for road decommissioning in the *ROD*, however, it does state that "[r]oad closures with gates or barriers do not qualify as decommissioning or a reduction in road mileage" (*ROD*, B-19). The *ROD* directs the land management agencies to determine the influence of roads in Riparian Reserves on ACS objectives through watershed analysis and to obliterate roads based on ongoing and potential effects to ACS objectives (*ROD*, C-32, C-33). The FEMAT Report defines decommissioning as "closing and stabilizing a road to eliminate potential for storm damage and need for maintenance" (FEMAT V-57). NMFS' March 18, 1997 plan-level biological opinion defines road decommissioning as whatever measures are "necessary to restore pre-road hydrologic functions and...minimize the risk of road-related sediment delivery to streams."

All of these references make it clear that the intent is to evaluate and reduce road related *impacts* to meet ACS objectives. Because skid trails are not constructed to the same standards as roads and generally do not cause the same types of long-term hydrologic effects as roads, their obliteration cannot be used to offset construction of new roads to meet the no net increase standard.

RIEC 8

Question 4: *In order to meet the intent of the ACS objectives and the referenced S&Gs, what is the temporal requirement for mitigating road construction effects? For example, can new roads be constructed in Key Watersheds now, when offsetting road decommissioning cannot occur until sometime in the future? Must offsetting road decommissioning occur prior to the construction of new roads or can they occur concurrently?*

The *ROD* is clear in its intent for Key Watersheds to be managed to reduce overall road[1] densities over time to restore impaired aquatic ecosystem functions and processes. The NMFS March 18 opinion extends this intent to all watersheds with listed salmon species to minimize incidental take. The *ROD*, B-19 states that if funding for implementing reductions in road mileage in Key Watersheds is insufficient, then there will be no net increase in road miles. Because existing conditions in many managed watersheds may already be degraded, road mileage reductions need to occur prior to, or concurrent with, new road construction. This timing is necessary to meet ACS objectives which strive to maintain or restore aquatic processes and functions that may be affected by new road construction.

Policies developed following the *ROD* support the requirement for road mileage reductions to occur prior to or concurrent with new road construction in Key Watersheds. However, the agencies also recognize that road decommissioning often entails significant environmental planning, analysis, and review requirements, and decommissioning activities may extend beyond the completion of the new roads in Key Watersheds. This is reflected in the previous interagency policy on road access under the NFP (April 7, 1995 Memorandum from the Regional Interagency Executive Committee) which requires at least one mile of federal road to be decommissioned "prior to, during, or within a reasonable timeframe following construction" of each mile of new road constructed in Key Watersheds. Similarly NMFS' March 18 opinion (page 72) states that the identification of mitigation actions (including those for road density) must occur concurrent with road construction, and must be implemented within a reasonable timeframe following construction of the new road.

The requirement to decommission roads prior to or concurrent with constructing new roads in Key Watersheds would also apply to semi-permanent roads that are in place for one or more operating period (construction season), but eventually removed at the completion of the timber sale or other management action. Even though such roads may be seasonally closed to traffic during the wet season, they may impair hydrologic functions, contribute sediment or cause other adverse effects for the time they are temporarily on the landscape, and therefore must have offsetting road decommissioning to meet the intent of the *ROD* requirements.

Based on this logic, only temporary roads; i.e., those that are constructed and completely obliterated during the same construction season, would not be subject to the requirement to decommission a like mileage of roads prior to or concurrent with the new road miles in Key Watersheds.

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[1] Efforts to interpret and implement road-related provisions of the NFP *ROD* have highlighted the need for a consistent definition of roads, which presently does not exist. We recommend that the work group involved with this issue be re-convened to address it further. Several definitions currently in use are applicable to this clarification of the timing for road decommissioning:

- According to the final Forest Service Roads Analysis procedures (June 10, 1999), a road is a vehicle travel-way more than 50 inches wide.
- The NMFS March 18, 1997 plan-level biological opinion defines several types of roads based on length of activity: "temporary roads" are roads that are installed and decommissioned during the dry season of the same year (usually May 15-October 15); "semi-permanent roads"- are roads that are used for longer than one dry season, but are decommissioned at the end of the contract; "permanent roads" are roads that remain in use after a contract is completed.
- The team assumes that the term "open" means that a "road" is accessible to traffic; "closed" means that the road still exists, but is not accessible to traffic.
- The definition of road decommissioning is addressed in the response to question #3 above.

RIEC 9

The interagency review team noted that much of the confusion that initially lead to questions #1 and #4 for the road issue stem from differences in the analytical baseline for the *ROD* and for ESA Section 7 consultation. As stated above, *ROD* requirements are met by ensuring that there is a gradual decline (or if funding is insufficient, no net increase) in road miles within Key Watersheds from the temporal baseline of the *ROD* effective date. For example, if 10 miles of roads were decommissioned in a Key Watershed in 1995 as part of a restoration project, the construction of 5 new miles of road in the same Key Watershed in 1996, and 3 additional miles in 1997 would technically be consistent with the *ROD* requirements, as long as the net effect is a reduction from the 1994 *ROD* baseline. In contrast, the Section 7 consultation regulations redefine the environmental baseline with each subsequent consultation, and all actions previously consulted upon are included in the environmental baseline for each new action. That is, when an action is identified for consultation in a biological assessment, all actions which have occurred prior to the consultation are accounted for in the analysis of the environmental baseline. Impacts of new activities are measured by their effect on the existing environmental baseline.

Some have erroneously mixed these two concepts of baseline and suggested that in order to meet the *ROD* requirements, each proposal for new road construction in Key Watersheds must be accompanied by a concurrent, equivalent amount of road decommissioning regardless of previous road mileage reductions, so that there is a net reduction in the pre-project road density (ESA definition of environmental baseline). This approach does not account for previous decommissioning actions, regardless of their timing or magnitude, and creates an institutional disincentive to proactively decommission roads prior to any action which may propose new road construction. This creates cost inefficiencies by piecemealing decommissioning projects, as well as postponing or forgoing larger-scale road restoration opportunities that would accelerate ecosystem recovery.

Team Recommendation:

The team identified a process that could provide an accounting procedure for tracking *ROD* compliance and ACS consistency and for addressing road-related impacts under Section 7. Since both the *ROD* and NMFS' March 18 plan-level biological opinion infer the need to systematically evaluate roads for their intended long-term use (and subsequent disposition), the Transportation Management Planning (TMP) process can provide an avenue for resolving this dilemma. Road management planning processes of both the FS and BLM, along with watershed analysis, can provide an analytic framework for setting road impact reduction objectives and can be used to establish both a spatial and temporal framework for road management within each 5th field watershed. The results of this process can be identified in each consultation, and tracked through the interagency restoration database, so that all actions, including past, present and foreseeable future can be evaluated in the ESA environmental baseline. So, as new roads are proposed as part of actions under consultation, potential impacts can be evaluated (or counted) against road impact reductions achieved though implementing the TMP.

This requires each TMP to include an assessment of past road impacts already addressed through restoration since the issuance of the *ROD*. The TMP establishes both long-term objectives for reducing road related impacts, and the restoration database provides an accounting process for all restoration actions. As new roads are proposed in a watershed, they will be evaluated against the TMP objectives. As long as new construction is consistent with the TMP, ACS, and is covered by previous or ongoing actions reducing road impacts, it would not degrade the environmental baseline at the time of consultation, and would be fully consistent with *ROD* requirements for managing road mileage in Key Watersheds.

RIEC 10

ISSUE: The role of Late-Successional Reserves and designated roadless areas as components of the ACS.

The RIEC asked the REO to facilitate interagency agreement on what, if any, further clarification is needed to document the expected role of Late-Successional Reserves and inventoried roadless areas in meeting ACS objectives.

The interagency review team identified and answered a number of specific questions to provide the requested clarification:

Question 1: *Are LSRs an important component of the ACS?*

Yes, LSRs are an important component of the ACS (*ROD*, B-12).

Question 2: *Are LSR Assessments required to address ACS objectives?*

No, LSR Assessments, as described on *ROD*, C-11, are not required to address ACS objectives. ACS objectives are addressed in NEPA documents linked to watershed analysis as appropriate to the issues raised by the proposed activity and the situation.

Question 3: *Do different S&Gs apply to roadless areas inside and outside of Key Watersheds?*

Yes. While roadless areas both in and outside Key Watersheds have additional S&Gs designed to protect water quality because of identified concerns over unstable lands, the S&Gs are not the same. Watershed analysis is required prior to management activities in all watersheds that contain roadless areas. However, inside Key Watersheds, no new roads are to be built in remaining roadless areas (*ROD*, B-19).

Question 4: *What further points of clarification can be provided regarding the role of LSRs and roadless areas as components of the ACS?*

- The ACS objectives and aquatic S&Gs apply in LSRs.
- LSR Assessments, Watershed Analysis, NEPA, and other information must be used together to guide final management decisions in LSRs. LSR Assessments may contain recommendations that are not appropriate when viewed in the larger context of this additional information.
- Key Watersheds are intended to play an important role in the recovery of fish stocks listed under the ESA, and 38 percent of LSRs are in Key Watersheds.
- Roadless Area means all RARE II areas not roaded as of 5/13/94, regardless of release language, management direction, changes in roadless definition, etc.
- There is a correlation between roadless areas and at-risk fish stocks, and management decisions in roadless areas must consider those stocks. However, there are no specific restrictions on management activities in roadless areas other than watershed analysis and, inside Key Watersheds, the requirement that no new roads are to be built in remaining roadless areas.
- Maps of remaining roadless areas included in the FEMAT Report are likely adequate for plan-level consultation, and any changes to roadless areas between the FEMAT mapping and the signing of the *ROD* can be examined at the project level during individual ESA Section 7 consultations.

Team Recommendation:
The presence of roadless areas, LSRs, and status of known bull trout populations should be identified and addressed in watershed analysis documents. Analyses that do not include this information should be updated at the earliest opportunity.

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Oregon State Office
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Portland, OR 97208

In Reply Refer to:
5400 (OR-931) P

November 7, 2002

EMS TRANSMISSION 11/08/2002
Information Bulletin No. OR-2003-026

To: District Managers: Lakeview, Salem, Eugene, Roseburg, Medford, and Coos Bay

From: Deputy State Director for Resource Planning, Use and Protection

Subject: FY 2003 Timber Sale Strategy and Data Call DD: 11/27/2002
01/15/2003

FY 2003 Timber Sale Strategy

Legal, administrative, and Northwest Forest Plan (NFP) implementation challenges are continuing into FY 2003. The primary challenges include: (1) resolution of Endangered Species Act (ESA) consultation issues associated with the Pacific Coast Federation of Fishermen's Associations et al. v. National Marine Fisheries Service lawsuits and Aquatic Conservation Strategy interpretation; (2) implementation of the Survey and Manage (S&M) Supplemental Environmental Impact Statement; and (3) the Ninth Circuit Court of Appeals ruling in Hugh Kern, et al. v. Bureau of Land Management regarding Port Orford Cedar and the spread of *Phytopthera lateralis.*

The nature of the situation dictates the development of a FY 2003 Timber Sale Plan that continues to place interim emphasis on partial cuts, i.e., sales for which either a "No Effect" (NE) or "Not Likely to Adversely Affect" (NLAA) biological determination can be made for listed anadromous fish, and timber sales that do not influence the spread of *Phytopthera lateralis* within the range of Port Orford cedar. This emphasis (a continuing interim strategy) is driven by circumstances in an attempt to effectively utilize appropriated funds and implement the Allowable Sale Quantity (ASQ) and socioeconomic objectives of the NFP to the maximum extent possible. It is anticipated that as the current challenges are resolved, the emphasis for balanced NFP implementation, i.e., partial cuts, regeneration cuts, restoration as a requirement of timber sale contracts, etc., will resume. However, if regeneration harvest sales can be designed to receive NLAA determinations, this should be pursued at levels consistent with the district

Resource Management Plan.

The following guidelines and assumptions shall also apply to district timber sale plans for FY 2003:

1. The following volumes are to be offered in support of Performance Measure accomplishment:

District	FY03 Targets (MMBF)
Lakeview	9
Salem	30
Eugene	29
Roseburg	15
Medford	52
Coos Bay	15
	150

2. Chargeable and nonchargeable volume will count towards the annual sale targets.

3. All needed Letters of Concurrence or Biological Opinions must be received prior to sale advertisement.

4. Districts are encouraged to accelerate the balanced implementation of the Resource Management Plans and NFP, utilizing timber sales as a treatment tool, where identified, as an appropriate treatment necessary to accomplish Aquatic Conservation Strategy and Late-Successional Reserve (LSR) objectives as identified in Watershed Analysis and LSR Assessments.

5. Until Annual Work Plan directives are issued, assume the funding levels in the FY 2003 Planning Target Allocations plus any carryover funds from FY 2002, and assume comparable 6310, 5810, and 5900 directives from FY 2002. In addition, employ the following excerpts from the 5810 and 5900 subactivity definitions from the fund coding handbook:

   a. For 5810 – To qualify for the deposit of receipts: (1) the timber sale layout, volume measurement and appraisal, and contract preparation must be funded by the Pipeline Restoration Fund (PRF); and (2) a minimum of most (51 percent or more) of the timber sale preparation costs must by funded by the PRF.

   b. For 5900 – A minimum of most (51 percent or more) of the treatment costs must be funded by the Forest Ecosystem Health and Recovery Fund (FEHRF) for the receipts to be deposited into the FEHRF.

All Districts are to complete the attached table (Table 6) and e-mail it to Lyndon Werner (OR-931) by close of business (COB), November 27, 2002. For each sale apply a hierarchy of

funding source, land use allocation, and cutting method to display the distinct acres and volume on a separate line. Then display the total acreage and volume figures for each sale.

Documentation of Timber Sale Preparation Effort

We have experienced four years (FYs 1999-2002) of offering less than the full ASQ. Concerns persist which prompt us to explain what we have been accomplishing with the funding that has been allocated from the lesser volume that has been offered. It is understood that, in some cases, it has been more costly than "normal" to prepare the sales that have been offered; in some cases sale preparation effort has resulted in nonviable sales. In an attempt to document sale preparation effort that has resulted in nonviable sales or sales that have been put on-the-shelf in various stages of completion, Table 5 has been developed. In addition, this data is useful in demonstrating progress in meeting the PRF goal of one year's lead time, i,e., one ASQ's worth of volume on the shelf.

All districts are to complete the attached table (Table 5) and e-mail it to Lyndon Werner (OR-931) by COB, January 15, 2003. Additional rows should be inserted into the table as needed. The population of sales still includes all unoffered sales intended for sale in FYs 1999-2002 and their status as of the end of FY 2002. Each individual sale should be displayed once only in the highest possible numbered gate.

Additional Table 5 Explanation:

1. Gates
   a. Gate 1: Sale is ready for ID Team to begin their analysis and deliberations. Initial reconnaissance is complete.
   b. Gate 2: S&M, Threatened and Endangered, cultural, etc., surveys; ID team; Environmental Assessment; and public review complete.
   c. Gate 3: Layout and cruise complete. Sale is nearly ready to advertise, pending appraisal and final contract preparation.
   d. Gate 4: ESA consultation complete.

2. Columns
   a. Sale Name: Use most current name; use Remarks column to explain sale combinations.
   b. Acreage and Volume: Use current figures as of the completion of the gate.
   c. Viability Status: No-Off = Sale no longer viable; it is off the shelf. Yes-On = Sale viable but on-the-shelf at this gate; not appropriate to proceed at this time on work under next gate. Yes-Go = Sale viable; proceed with effort under next gate.
   d. Remarks: Use for additional explanation or to cross reference a separate document with more detailed explanation.

Timber Sale Pipeline Fund Project Submissions

To credibly utilize PRF funds (5810) and develop the data necessary for the annual report to Congress, this Information Bulletin is requesting the closeout of FY 2002 project

accomplishments and submission of proposed FY 2003 projects. Refer to the FY 2002 Annual Work Plan Subactivity Specific Directives, pages 92-94, for additional information on project development.

All districts are to complete the attached Table 1 for all FY 2002 projects and e-mail them to Lyndon Werner (OR-931) by COB, November 27, 2002. All districts are to complete the attached Table 2 and e-mail them to Lyndon Werner (OR-931) three weeks following the issuance date of the FY 2003 Oregon/Washington Annual Work Plan Directives. All districts are to complete the attached Tables 3 and 4 and e-mail them to Lyndon Werner (OR-931) by COB, January 15, 2003. Specific feedback requirements are as follows:

1. Be specific regarding the units of accomplishment. The tables should be submitted (electronically) as a singe document from each district. Insert additional rows into the tables as necessary to display additional accomplishments or projected timber sales.

2. Cruised and "on-the-shelf" volume is comprised of sales which were complete at the end of FY 2002 (Table 1) or are anticipated to be complete at the end of FY 2003 (Table 2). "Complete" is defined as cruised and on-the-shelf with the assumption that, at a certain designated time (in this case, at the end of FYs 2002 or 2003, respectively), all field work was complete.

3. **Table 1:**

   a. The dollar figures (at the bottom of the table) for all projects must add up to the total amount spent by the district.

   b. Use the same project names established or perpetuated in FY 2002. Use the remarks section to explain the "flow" (pathway) of a project from year to year. Use the remarks section to explain if preliminary project development effort has resulted in decreased or no projected accomplishment (less or no timber volume).

4. **Table 2:**

   a. The dollar figures at the bottom of the table (for all projects) must add up to the district's tentative 5810 allocation plus anticipated carryover, unless that level of spending would be inconsistent with the directives. Identified project cost must be specific to that project's identified accomplishments.

   b. Use the same project names established or perpetuated in FY 2002 unless a FY 2002 general project (i.e., stand exams) in a watershed is now becoming more than one FY 2003 specific project (i.e., with different project names). Use the remarks section to explain the "flow" of a project from year to year or the "flow" of a project into multiple projects.

5. **Tables 3 and 4:**

a. Make a reasonable and conservative determination as to whether operations will proceed and generate revenue in FY 2003.

b. The total projected revenue in FY 2003 from new sales in Table 3 (right most column) should equal the sum of the value of sale-by-sale revenue projections in Table 4.

If you have any questions, please contact Lyndon Werner (OR-931) at 503-808-6071 or Alan Wood
(OR-931) at 503-808-6072.

Districts with Unions are reminded to notify their unions of this Information Bulletin and satisfy any bargaining obligations before implementation. Your servicing Human Resources Office or Labor Relations Specialist can provide you assistance in this matter.

Signed by
Denis M. Williamson
(Acting)

Authenticated by
Mary O'Leary
Management Assistant

5 Attachments
1 – Table 1: FY 2002 5810 Actual Accomplishments (1p)
2 – Table 2: FY 2003 5810 Proposed Projects (1p)
3 – Table 3 and Table 4: Planned FY 2003 Timber Sale Pipeline Restoration Work and Projected Revenue (1p)
4 – Table 5: On-the-Shelf/Unoffered Timber Sale Volume - end of FY 2002 (2pp)
5 – Table 6: FY 2003 Timber Sale Plan (1p)

Distribution
WO-230 (Room 204LS) - 1
OR-014 (Mel Crockett) - 1
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OR-090 (Dave DeMoss) - 1
OR-100 (Steven Niles) - 1
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OR-120 (Jon Menten) - 1

United States Department of the Interior

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UMPQUA WATERSHEDS, INC., ET AL.

IBLA 2001-355 Decided December 18, 2002

Appeal from a decision of the Field Manager, Myrtlewood Resource Area, Oregon, Bureau of Land Management, denying a protest of the proposed Jonesville Slugger and Little Big Sandy timber sales. OR-120-TS-01-30 and OR-120-TS-01-31.

Dismissed in part; affirmed in part.

1. Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--National Environmental Policy Act of 1969: Finding of No Significant Impact--Timber Sales and Disposals

It is proper for BLM to approve a timber sale, absent preparation of an EIS, when, in accordance with section 102(2)(C) of the National Environmental Policy Act of 1969, as amended, 42 U.S.C. § 4332(2)(C) (1994), it has taken a hard look at the environmental consequences of doing so and reasonable alternatives thereto, considering all relevant matters of environmental concern, including the expected individual and cumulative impacts to soils, water quality and quantity, and threatened or endangered species, and made a convincing case that no significant impact will result therefrom or that any such impact will be reduced to insignificance by the adoption of appropriate mitigation measures. BLM's decision not to prepare an EIS will be affirmed if the appellant does not demonstrate, with objective proof, that BLM failed to consider a substantial environmental problem of material significance to the proposed action, or otherwise failed to abide by the statute.

APPEARANCES: Francis Eatherington, Roseburg, Oregon, for Umpqua Watersheds, Inc.; Doug Heiken, Eugene, Oregon, for Oregon Natural Resources Council Action; Bonnie Joyce, Myrtle Point, Oregon, for Friends of the Coquille River; Karla Bird, Field Manager, Myrtlewood Resource Area Office, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE MULLEN

Umpqua Watersheds, Inc., Oregon Natural Resources Council Action, and Friends of the Coquille River (hereinafter, collectively, Umpqua) have jointly appealed a June 18, 2001, decision issued by the Field Manager, Myrtlewood (Oregon) Resource Area, Bureau of Land Management (BLM), denying their protest of the proposed Jonesville Slugger and Little Big Sandy timber sales (Nos. OR-120-TS-01-30 and OR-120-TS-01-31): 1/

On February 20, 2001, the Field Manager issued Decision Documentation, deciding to proceed with the Jonesville Slugger and Little Big Sandy timber sales, subject to specified project design features and other mitigation measures. The potential environmental impacts of the proposed timber sales and associated activities and two alternatives (including no action) had been analyzed and the December 1999 "Revised Big Creek Analysis Area Environmental Assessment" (EA) (No. OR-128-98-11) prepared to comply with section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. § 4332(2)(C) (1994), and tiered to the Final Environmental Impact Statement (EIS) for the Coos Bay District Proposed Resource Management Plan (RMP). 2/

The Revised EA addressed a larger timber harvest program in BLM's Myrtlewood Resource Area. The "Big Creek Analysis Area" encompassed 16,661 acres (9,021 acres (Federal), 1,047 acres (Coquille Indian Tribe), and 6,593 acres (private)), in the Big Creek 6th field subwatershed. The three alternatives considered the following harvests, described by total area covered and estimated timber volume: Alternative I (No Action) --

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1/ Umpqua's May 7, 2001, letter of protest was signed only by the listed representative of Umpqua Watersheds, Inc. The Field Manager stated, in her June 2001 decision, that Oregon Natural Resources Council Action and Friends of the Coquille River were not a "party to your protest." (Decision at 1.) BLM now asserts that Oregon Natural Resources Council Action and Friends of the Coquille River are not parties to this appeal within the meaning of 43 CFR 4.410(a), and thus lack standing to appeal, even though their representatives signed Umpqua's July 19, 2001, Notice of Appeal/Statement of Reasons for Appeal (NA/SOR). (Memorandum to Board from Field Manager, dated Aug. 7, 2001 (BLM Response), at 1; see, e.g., Laser, Inc., 136 IBLA 271, 273-74 (1996). In the Friends and residents of Log Creek, 150 IBLA 44, 46-47 (1999), and Blue Mountains Giodiversity Project, 139 IBLA 258, 261 (1997), we recognized that when an appeal is jointly filed by several appellants, those appellants who lack standing to appeal because they were not parties to the decision from which the appeal is taken are properly dismissed. Accordingly, the appeal is properly dismissed as to Oregon Natural Resources Council Action and Friends of the Coquille river.

2/ The EA addressed whether the proposed timber sales and associated activities were likely to result in a significant impact to the human environment, thus dictating preparation of an EIS. In a Dec. 13, 1999, Finding of No Significant Impact (FONSI), the Field Manager concluded that no EIS was required.

None; Alternative II (Proposed Action)-- 587 acres (16.55 million board feet (mmbf)); Alternative III (Alternative Action)--704 acres (22.87 mmbf). Alternative II would authorize Regeneration Harvest (308 acres in 13 units); Commercial Thinning (245 acres in 6 units); Density Management Thinning (11 acres in 1 unit); Hardwood/Brush Conversion (23 acres in 3 units). Ninety acres of commercial/density management thinning and 2 acres of hardwood/brush conversion in Riparian Reserves would be conducted. Alternative II would also authorize construction of 1.9 miles of new roads, renovation of 13.8 miles of road, and improvement of 0.9 miles of road, and closure of 11.1 miles of existing roads.

In her February 2001 Decision Documentation, the Field Manager adopted "Alternative II," which provided for partial cutting on 587 acres of public land including the sales tracts which are situated in secs. 3 and 9, T. 29 S., R. 10 W., and secs. 14, 15, 23, and 24, T. 29 S., R. 11 W., Willamette Meridian, Coos County, Oregon. 3/ The sale area consists of 7 sale units (EA Units 5, 6, 25, 32, 36 DM, and 40). The sales area is also in the 2,611-acre Swamp Creek, 3,002-acre Middle Big Creek, and 488-acre Jones Creek drainages in the Big Creek 6th field subwatershed and Middle Fork Coquille River 5th field watershed. Timber sales in this area are conducted in accordance with the Northwest Forest Plan. 4/

The timber cut is expected to produce 1.84 mmbf of merchantable timber, which will be yarded using a one-end log suspension cable-type system in the regeneration harvest area and a skyline cable system in the commercial thinning area). The timber cuts were described as follows:

> Commercial thinnings * * * would retain 90-130 trees/acre in most units. In these cases, spacing would vary throughout the thinning units and hardwoods would be thinned along with conifer[s]. * * *

3/ The Jonesville Slugger sale would involve cutting 240 thousand cubic feet (mbf) of timber, by regeneration harvest and commercial thinning, from 36 acres in 5 sale units, situated in secs. 14, 15, 23, and 24, T. 29 S., R. 11 W., Willamette Meridian, Coos County, Oregon. The Little Big Sandy sale would involve cutting 1,600 mbf of timber, by regeneration harvest, from 21 acres in 2 sale units, situated in secs. 3 and 9, T. 29 S., R. 10 W., Willamette Meridian, Coos County, Oregon.

4/ The Northwest Forest Plan is the generally accepted title given to the "Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl" (Attachment A), which was adopted by the Secretaries of Interior and Agriculture, in an Apr. 13, 1994, Record of Decision (ROD). The Northwest Forest Plan generally provides for the comprehensive management of timber and other natural resources on all Federal lands in California, Oregon, and Washington, within the geographic range of the Northern spotted owl (designated a threatened species under the Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. §§ 1531-1543 (1994)).

> Regeneration harvest units would retain approximately 7 wildlife trees/acre in the GFMA [General Forest Management Area] units[.] [5/]

(Revised EA at 6-7.) A new one-half mile road would be constructed and used with existing roads during the timber harvest and related operations. The roads would be decommissioned following harvesting.

On April 26, 2001, BLM published a Notice of Sale, thus authorizing the Jonesville Slugger and Little Big Sandy timber sales, pursuant to 43 CFR 5003.2(a) and (b). See Sierra Club, Grand Canyon Chapter, 136 IBLA 358, 361 (1996). On May 9, 2001, Umpqua filed a protest, challenging the subject timber sales and the remainder of the Big Creek Analysis Area Project (Project). CLR Timber Holdings, Inc. (CLR), and Christian Futures Logging, Inc. (Christian), were the high bidders at the competitive timber sale held on May 25, 2001.

In her June 2001 decision, the Field Manager denied Umpqua's protest, addressing all of the points raised by Umpqua.

Umpqua appealed the Field Manager's June 2001 decision, objecting to BLM's approval of a "large regeneration harvest of old growth and mature forest," rather than the "commercial thinnings and other more sensitive logging practices" favored by other BLM offices when the harvest is in a watershed of the Coast Range that supports salmon. 6/ (NA/SOR at 1.)

In an October 29, 2001, letter, BLM notified the Board that it had decided to award the timber sale contracts (Nos. OR-12-TS-2001.0030 and OR-12-TS-2001.0031), pursuant to 43 CFR 5003.3(f).

Before proceeding to the substantive issues raised by Umpqua, we will consider a motion to dismiss filed by BLM. BLM contends that Umpqua Watersheds, Inc.'s appeal should be dismissed because it is being pursued by a party not qualified under 43 CFR 1.3(b), the regulation governing who is entitled to appear before the Department and pursue appeals before this Board. (BLM Response at 2.) See Resource Associates of Alaska, 114 IBLA 216, 218 (1990).

The Board is not required, by statute, regulation, or Departmental policy, to dismiss an appeal filed by someone not qualified to practice before the Department, although an appeal is subject to dismissal for that

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5/ On appeal, Umpqua repeatedly and erroneously refers to the regeneration harvests, which would be undertaken on less than half of the lands in the two sales, as "clearcut[s]." (NA/SOR at 2.)

6/ In conjunction with their appeal, Umpqua filed a petition seeking a stay the effect of the Field Manager's June 2001 decision during the pendency of the appeal. Because we here resolve the instant appeal, we will deny Umpqua' stay petition as moot.

reason. Klamath Siskiyou Wildlands Center, 155 IBLA 347, 350 (2001); Resource Associates of Alaska, 114 IBLA at 218; Ganawas Corp., 85 IBLA 250, 251 (1985); Henry H. Ledger, 13 IBLA 356, 357 (1973).

When the person filing an appeal fails to demonstrate that he or she is qualified under 43 CFR 1.3(b) to practice before the Department, and the record does not otherwise establish the requisite qualification, the appeal is properly dismissed. 7/ Gail Schmardebeck, 142 IBLA at 161-62; Resource Associates of Alaska, 114 IBLA at 218-19; Robert G. Young, 87 IBLA at 250. Thus, were Eatherington unable to demonstrate to our satisfaction, that she is qualified to practice under 43 CFR 1.3(b), we would dismiss her appeal.

In response to BLM's motion, Eatherington asserts that she is a "full-time employee," and has represented Umpqua Watersheds, Inc. as a part of the "Southwest Oregon Province Advisory Committee." (Letter to the Board, dated Aug. 27, 2001, at 1.) The categories of those entitled to practice before the Department include individuals representing a "corporation, business trust, or * * * association" who are either "an officer or [a] full-time employee." 43 CFR 1.3(b)(3).

Neither 43 CFR 1.3(b) nor the Board has ever defined who is an "officer" or "full-time employee" of an "association." Thus, we will afford them their ordinary meaning. We have no reason to doubt Eatherington's assertion that she is a full-time employee of Umpqua Watersheds, Inc. We therefore conclude, as a matter of fact, that Eatherington is a full-time employee of an association within the meaning of 43 CFR 1.3(b)(3), and is qualified to appear before this Board. Accordingly, the motion to dismiss is denied.

In the NA/SOR, Umpqua contends that the Field Manager erred by denying its protest and permitting the timber sales to go forward because BLM had not adequately considered all of the potential environmental impacts of those sales and the cumulative impact of the timber harvest, road building, related activity, and the rest of the Project. It argues that the sales, when taken together with the remainder of the Project, threaten to destroy mature and old-growth forests, erode soils, and adversely impact wildlife and fish and other aquatic species by habitat destruction, and negative impact upon water quality and quantity. It states that the Project "will cause irreparable and permanent harm to the ecosystems of the Big Creek watershed." (NA/SOR at 3.) It also agues that the sales and the rest of the Project will result in significant impacts to the human environment, BLM was required to prepare an EIS, and its failure to do so violated section 102(2)(C) of NEPA.

7/ The burden of demonstrating that the person seeking to represent an appellant is qualified under 43 CFR 1.3(b) rests with the appellant. Klamath Siskiyou Wildlands Center, 155 IBLA at 349-51; Gail Schmardebeck, 142 IBLA 160, 161-62 (1998); Resource Associates of Alaska, 114 IBLA at 218-19; Robert G. Young, 87 IBLA 249, 250 (1985); Allen Duncan, 53 IBLA 101, 103, 88 I.D. 345, 346 (1981).

Umpqua asserts that, by going forward with the sales and the Project, BLM violated the Survey and Manage (S&M), Aquatic Conservation Strategy (ACS) and other requirements of the Northwest Forest Plan. It argues that, by not formally consulting with the National Marine Fisheries Service (NMFS), U.S. Department of Commerce, BLM has failed to comply with the requirements of section 7 of the ESA, as amended, 16 U.S.C. § 1536 (1994), because the timber harvest, road building, and related activity are likely to adversely affect the Oregon Coast Evolutionarily Significant Unit (ESU) Coho Salmon (Oncorhynchus kisutch), a Federally-designated threatened species found in the Big Creek subwatershed and downstream in the Middle Fork Coquille River. Umpqua states that BLM has violated its duty to manage the public lands in accordance with the Coos Bay District RMP and take action necessary to prevent unnecessary or undue degradation of the public lands. 43 U.S.C. § 1732(a) and (b) (1994).

Umpqua asks the Board to reverse the Field Manager's decision and remand the case to BLM for preparation an EIS and direct BLM to comply with section 7 of the ESA and section 302 of FLPMA. (NA/SOR at 12-13.)

[1] A BLM decision to proceed with contemplated action without preparing an EIS, will be deemed to be in accordance with section 102(2)(C) of NEPA if the record demonstrates that BLM has, considering all relevant matters of environmental concern, taken a "hard look" at potential environmental impacts, and made a convincing case that no significant impact will result therefrom or that any such impact will be reduced to insignificance by the adoption of appropriate mitigation measures. Cabinet Mountains Wilderness v. Peterson, 685 F.2d 678, 681-82 (D.C. Cir. 1982); In Re North Murphy Timber Sale, 146 IBLA 305, 310 (1998) 8/; Nez Perce Tribal Executive Committee, 120 IBLA 34, 37-38 (1991). An appellant seeking to overcome a decision to proceed without an EIS must demonstrate, with objective proof, that BLM failed to or did not adequately consider a substantial environmental question of material significance to the proposed action, or that it had otherwise failed to comply with section 102(2)(C) of NEPA. In Re North Murphy Timber Sale, 146 IBLA at 310; Southern Utah Wilderness Alliance, 127 IBLA 331, 350, 100 I.D. 370, 380 (1993); Red Thunder, 117 IBLA 167, 175, 97 I.D. 203, 267 (1990); Sierra Club, 92 IBLA 290, 303 (1986).

If BLM has complied with the procedural requirements of section 102(2)(C) of NEPA, by taking a hard look at the environmental impacts of a proposed action, it will be deemed to have complied with the statute, even though a different substantive decision may have been reached by this Board or a court (in the event of judicial review). Strycker's Bay Neighborhood Council v. Karlen, 444 U.S. 223, 227-28 (1980); Natural Resources Defense Council v. Morton, 458 F.2d 827, 838 (D.C. Cir. 1972); Oregon Natural Resources Council, 116 IBLA 355, 363 (1990). As we said in Oregon Natural Resources Council, 116 IBLA at 361 n.6:

8/ Rev'd on other grounds, Oregon Naturan Resources Council v. United States Forest Service, No. C98-942WD (W.D. Wash. Aug. 2, 1999), slip op. at 11-12.

> [Section 102(2)(C) of NEPA] does not direct that BLM take any particular action in a given set of circumstances and, specifically, does not prohibit action where environmental degradation will inevitably result. Rather, it merely mandates that whatever action BLM decides upon be initiated only after a full consideration of the environmental impact of such action.

The only decision now before us is BLM's decision to conduct the Jonesville Slugger and Little Big Sandy timber sales. Future decisions regarding other timber harvests and associated activity, which were addressed in the EA and approved as part of the Project in the February 2001 Decision Documentation are not now in issue because no notice of sale or other decision document authorizing that activity has been issued.

Issues regarding whether the contemplated additional timber harvest activity and the Project as a whole might violate the S&M, ACS, and other requirements of the Northwest Forest Plan, the consultation requirements of section 7 of the ESA, or the land-use planning and unnecessary/undue degradation prescriptions of section 302 of FLPMA are not before us. 9/ See In Re Red Top Salvage I Timber Sale, 142 IBLA 109, 113-15 (1998) (compliance with ACS requirements of Northwest Forest Plan). When, and if, BLM goes forward with additional timber harvests, it will be appropriate to ask whether, given existing and reasonably foreseeable impacts, it is likely that the action will violate the requirements of the Northwest Forest Plan, section 7 of the ESA, or section 302 of FLPMA. Before issuing any additional notice(s) of sale or other decision document(s), BLM should assure itself that the activities authorized at that time will not violate these requirements. That determination, which may be based (in whole or in part) on the Revised EA and related documentation, will in all likelihood be subject to scrutiny and appeal. However, until BLM decides to go forward with other timber harvesting and associated activity, it would be premature to address whether those activities would violate the Northwest Forest Plan, section 7 of the ESA, or section 302 of FLPMA.

We believe it appropriate to consider whether BLM properly analyzed the cumulative impacts of the Jonesville Slugger and Little Big Sandy

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9/ Neither of the sales involves a regeneration harvest in a Connectivity/Diversity Block. (See Decision at 3; Revised EA at 8 (Map); Prospectus (Jonesville Slugger Timber Sale) at Exhibits A and A-1; Little Big Sandy Timber Sale Prospectus at Exhibits A and A-1; BLM Answer at 15.) We find no violation of the RMP provision limiting regeneration harvests to less than 1/15 of the available acres per decade (or 1/5 once every 30 years, where necessary to maintain a viable harvest unit) in any Connectivity/Diversity Block. (NA/SOR at 30-31 (citing Coos Bay District RMP, dated May 8, 1995, at 54).)

To the extent that any other part of the Project may involve a regeneration harvest in a Connectivity/Diversity Block, and thus arguably violate BLM's RMP, that issue is not presently before us.

timber sales and the other timber harvesting and associated activity approved in the February 2001 Decision Documentation (as well as other past, present, and reasonably foreseeable future actions), in satisfaction of its environmental obligations under section 102(2)(C) of NEPA. See, e.g., Friends of the Nestucca, 144 IBLA 341, 358-59 (1998), appeal filed, Coast Range Association v. Shuford, No. 98-819-JO (D. Or. July 7, 1998). We also believe it appropriate to address whether BLM adequately considered whether cumulative impacts might give rise to a violation of the requirements of the Northwest Forest Plan, section 7 of the ESA, or section 302 of FLPMA. See 40 CFR 1508.27 (A proposed action may be considered to have a significant impact where it "threatens a violation of Federal * * * law or requirements imposed for the protection of the environment").

Umpqua argues that BLM failed to substantiate that the regeneration harvest satisfies two of the principal purposes set forth in the EA; 1) to contribute to the Coos Bay District's decadal Allowable Sale Quantity (ASQ) volume commitment, and 2) address BLM's socio-economic commitment by promoting the production of merchantable timber through multiple timber sales from the GFMA. (NA/SOR at 28 (referring to Revised EA at 3).) It alleges that BLM has not disclosed the District's decadal Allowable Sale Quantity, in violation of 40 CFR 1502.21. According to Umpqua, this precludes BLM from incorporating material in support of an EA by reference unless it is "reasonably available for inspection by potentially interested persons within the time allowed for comment." Umpqua also claims that BLM does not show how it is meeting its local and national socio-economic commitment because the sales are occurring at a time when timber prices are at an all-time low, and that BLM will not realize the best returns for this public resource while further depressing the value of private timber. (NA/SOR at 28-29.)

When the Revised EA was prepared in December 1999, the District was operating under the Allowable Sale Quantity of 32 mmbf per year set out in the RMP. This amount is considerably more than the amount of timber to be harvested under the sales. (See Coos Bay District RMP at 52; Letter to Board from Field Manager, dated Aug. 24, 2001 (BLM Answer), at 14.) This Allowable Sale Quantity was fully disclosed in a document available to the public. Thus, we find no violation of 40 CFR 1502.21. Further, these sales were designed to "[c]ontribute" to the attainment of the ASQ. (See February 2001 Decision Documentation at 3.)

Umpqua contends that, when the revised EA was prepared, the ASQ should have been reduced in response to outstanding court orders requiring additional compliance with the Northwest Forest Plan. (NA/SOR at 28.) However, the adjustment Umpqua refers to would not occur until July 31, 2001, which was after BLM's June 2001 decision. (See Decision at 7; BLM Answer at 14; NA/SOR at 10.) Umpqua has identified no violation of law resulting from this delay. (See Decision at 17; Coos Bay District RMP at 77.) The ASQ had not yet been amended, and BLM has demonstrated that the sales would contribute to attaining the level in effect when the Revised EA was prepared.

The ASQ is not a hard-and-fast constraint on timber harvest. Sales may occur even though they may cause the District to fall below or go over the ASQ:

> The ASQ for the RMP is an estimate of annual average timber sale volume likely to be achieved from lands allocated to planned, sustainable harvest. * * *
>
> The ASQ represents neither a minimum level that must be met nor a maximum level that cannot be exceeded. It is an approximation because of the difficulty associated with predicting actual timber sale levels over the next decade, given the complex nature of many of the management actions/direction. It represents BLM's best assessment of the average amount of timber likely to be awarded annually in the planning area over the life of the plan, following a start-up period. The actual sustainable timber sale level attributable to the land-use allocations and management direction of the RMP may deviate by as much as 20 percent from the identified ASQ. [Emphasis added.]

(Coos Bay District RMP at 52.)

The record supports the conclusion that going forward with the sales would, at least, "[a]ddress," if not completely satisfy, BLM's socio-economic commitment under section 1 of the Act of August 28, 1937 (O&C Act), as amended, 43 U.S.C. § 1181a (1994), by providing for the production of merchantable timber in economically depressed times. (See Decision at 6-7.) There is no dispute that timber prices were low. However, there is no basis for a conclusion that BLM is required by any statute or other law, to maximize the sales price of timber by withholding it from sale. Nor is this required by section 103(c) of FLPMA, 43 U.S.C. § 1702(c) (1994), cited by Umpqua, to make the "most judicious use of the [public] land." (See NA/SOR at 29.) We find no evidence that BLM failed to properly consider the socio-economic impacts of going forward with the sales.

Umpqua also argues that BLM failed to adequately consider the likelihood that authorized timber sale activities in the contract areas will spread root rot caused by Phytophthora lateralis in the Port Orford Cedar (POC). (NA/SOR at 29-30.) It notes that, by permitting winter timber hauling ("during the wettest part of the year"), BLM has undermined its project design feature providing the basic strategy for POC management to limit the spread of root rot by restricting timber haul to the dry season in EA Unit 5 and other units. Id. at 29 (citing Revised EA, Section G (Revised Design Features), dated Nov. 17, 1999, at 5).) Umpqua asserts:

> [T]he EA pretends like it is protecting [U]nit[] * * * 5 from POC root rot with a useless mitigation measure. * * * The EA should have analyzed the

> true threats to the POC, with realistic mitigation measures. The EA needs to be remanded until real protections can be put in place.

(NA/SOR at 29.)

Umpqua attributes winter hauling to BLM's decision to go forward with the "Sandy/Remote" timber sale, rather than either of the sales now under consideration. (NA/SOR at 29.) The EA Unit 5 encompasses Sale Unit 1 of the Little Big Sandy Timber Sale. (See Decision at 9; Revised EA at 8 (Map), Appendix 3 ("Alternative II-Proposed Action-Roads (East 1/2)"); Prospectus (Little Big Sandy Timber Sale) at Exhibits A and A-1.) However, it is clear that Sale Unit 1 access for hauling and other purposes is along "Spur 1, and BLM has specified that there will be "Summer hauling only on Spur[] 1." (Little Big Sandy Timber Sale Prospectus at Special Provisions, Exhibits A and A-1.) There will be no winter hauling with respect to that portion of the Little Big Sandy Timber sale. (Decision at 9.) We find no evidence that BLM approved winter hauling in connection with either of the sales now under review: "[N]either of the timber sales * * * involve winter haul." (Decision at 5.) There is no error because BLM has adopted the project design feature cited by Umpqua. In addition, BLM considered the likelihood of POC damage from root rot resulting from the sales. (See Revised EA at 1, 4; Revised EA, Section B at 4; Revised EA, Amendment to Section L, dated Nov. 8, 1999.)

Umpqua has presented no evidence that there will be any winter hauling in connection with the Sandy/Remote sale, either within that contract area or on the road which runs along the edge of EA Unit 5 (which is "across the road" from the Sandy/Remote sale), or that the sale is likely to promote the spread of POC root rot in that unit. (NA/SOR at 29; see Revised EA at 8 (Map), Appendix 3.)

Umpqua argues that BLM failed to adequately consider the potential cumulative impacts of the timber harvesting, road building, and related activity approved in connection with the subject sales and the other sales considered in the EA, which together will result in 308 acres of regeneration harvest and 1.9 miles of new roads. (NA/SOR at 15-16, 18-19, 23-27.) It specifically asserts that BLM failed to properly analyze the likelihood that large-scale harvesting and road building in the Big Creek subwatershed will cause extensive surface runoff and soil erosion, sedimentation, and higher peak flows in local streams, which will adversely affect downstream fish and aquatic species (including the threatened Oregon Coast ESU Coho Salmon).

BLM is required to consider potential cumulative impacts of a proposed action, together with past, present, and reasonably foreseeable future actions. 40 CFR 1508.7; see Park County Resource Council, Inc. v. United States Department of Agriculture, 817 F.2d 609, 623 (10th Cir. 1987); Howard B. Keck, Jr., 124 IBLA 44, 53 (1992), aff'd, Keck v. Hastey, No. S92-1670-WBS-PAN (E.D. Cal. Oct. 4, 1993).

In her decision, the Field Manager stated that BLM considered the cumulative impacts of the Project and other timber harvesting and associated activity:

> The Revised EA fully considered direct, indirect and cumulative effects, as ecosystem functions and processes interactions are currently understood in the various sciences, and evaluated them using readily assessable analytical tools. All analyses used a watershed, subwatershed or drainage framework encompassing all [land] ownerships (corresponding to the 5th, 6th and 7th fields).

(Decision at 14.) The EA reflects consideration of the cumulative impacts of the Project, other timber harvesting and associated activity (including the Chu-aw Clau-she timber sale on Coquille Indian tribal lands in the Big Creek subwatershed), with focus on the salient aspects of their impact on the environment. (See February 2001 Decision Documentation at 1; Revised EA at 4, 19-26, 30-34; Revised EA, Sections F, I, J and M.)

The EA was tiered to the EIS for the Proposed RMP, and the cumulative impacts of past, present, and reasonably foreseeable future timber sales (including the subject sales) and related activity in BLM's Coos Bay District, which encompasses the Myrtlewood Resource Area, had been considered in the EIS. (Decision at 17; February 2001 Decision Documentation at 1; FONSI at 2; Revised EA at 1; BLM Answer at 3, 14-16.) The effect of this tiering is not effectively challenged by Umpqua, and Umpqua fails to show a failure to comply with section 102(2)(C) of NEPA. See In Re North Murphy Timber Sale, 146 IBLA at 311-12, 314-15.)

Umpqua argues that BLM's analysis, and particularly its hydrological assessment, is not supported by data, calculations, or other evidence. (NA/SOR at 23-24.) We agree that BLM's analysis, as contained in the EA consists mostly of the opinion of BLM's hydrological expert, based on his knowledge of the Project area, and the effects of timber harvesting and associated activity. (See Revised EA, Section M (Amended Hydrologist's Report), at 1-2, 4-7.) BLM's hydrologist concluded:

> The watershed hydrologic condition will continue to maintain or improve. By implementation of * * * [A]lternative [II] current age class distribution would shift to 31 [percent] of BLM lands in the watershed in the 0-20 year old age class and 33 [percent] of all lands. This is very similar to the no action alternative (30 [percent]). * * * Extreme peak and minimum flows in the low elevation Coast Range are depend[e]nt on climatic patterns rather than vegetation manipulation. [Emphasis added.]

Id. at 1. Based in part upon his opinion, BLM concluded that the likely hydrological impacts of the two sales were negligible, and that they added little or nothing to the cumulative impacts of the Project as a whole:

> [M]ore than half of the [sale] units * * * are commercial thinning (31 acres) which have not been conclusively shown to increase peak flows at all in the [C]oast [R]ange. Much of the forest and vegetation is retained on site such that evapotranspiration and rainfall interception remain practically unchanged. Peak flow data studies (including small peaks that are not floods and larger peaks) in similar coastal environments have shown that there is no statistical difference between undisturbed stands and partial cut units when 59-69 [percent] of the stand volume was selectively removed by ground based methods. * * * The thinning prescription will remove substantially less forest stand volume (no greater than 35 [percent]). The three regeneration units in the timber sales * * * are very small (total 2[6] acres) and fully vegetated riparian reserves are maintained between the unit[s] and small headwaters channels. With this landscape configuration, there is no study to suggest that small increases in peak flow or any kind of increased water yield will even occur. This is because the intervening riparian reserve of trees and vegetation should transpire any small increases in available water. Therefore, changes in flow from the timber sales are expected to be negligible. [Emphasis added.]

(Decision at 5; see id. at 12, 14-15; Revised EA at 4; Revised EA, Section M (Amended Hydrologist's Report), at 1-2, 4-7; BLM Answer at 4-5, 9-11, 14.) Umpqua fails to present evidence contradicting this analysis, or otherwise show that BLM improperly minimized the contribution made by the sales to the cumulative hydrological impact of the Project.

Umpqua fails to demonstrate that BLM's expert opinions were improperly based, or that BLM failed to consider factors likely to affect the resulting impacts, or that the opinions were flawed in any way. Bare assertions will not suffice. Umpqua has not submitted any independent analysis and supporting evidence demonstrating cumulative impacts which BLM overlooked, or the type, extent, and magnitude of impacts which BLM failed to appreciate. (See, e.g., NA/SOR at 15, 19 and 27.) Above all, Umpqua fails to demonstrate that, because of geographic proximity and/or other reasons, there is likely to be an interaction between other projects and the proposed project or even just in terms of the whole Project which may result in an enhanced or modified impact that BLM was required to consider," but which it failed to consider. Wyoming Outdoor Council, 147 IBLA 105 at 109 (1998).

Umpqua has also failed to show that any of the potential cumulative impacts is likely to adversely affect Coho Salmon, triggering formal consultation with NMFS under section 7 of the ESA, which would constitute a significant impact, requiring preparation of an EIS. Its arguments are, for the most part, conclusory allegations. (See, e.g., NA/SOR at 16-17.) Nor has it demonstrated that any impact is likely to violate S&M, ACS, or other requirements of the Northwest Forest Plan, or is likely to result in an unnecessary or undue degradation of the public lands. 10/

BLM adequately considered the cumulative impacts likely to occur as a consequence of the proposed timber sales (in conjunction with other past, present, and reasonably foreseeable future actions (including the rest of the Project)), in conformance with section 102(2)(C) of NEPA, and was not required to prepare an EIS for that reason before approving the sales.

Umpqua argues that BLM failed to comply with the Northwest Forest Plan. It specifically asserts that BLM's decision to permit yarding in Riparian Reserves violates that Plan because it will not accelerate the acquisition of old-growth characteristics and attainment of ACS objectives. (NA/SOR at 24-25 (citing ROD, Attachment A at C-32).) It also claims that BLM's decision to reduce the interim widths of Riparian Reserves, increasing 16 acres "to be clearcut, either now or in the future," violates that Plan because it has not been fully justified and documented, or shown to be based on scientifically sound reasoning. (NA/SOR at 25 (citing ROD, Attachment A at B-16).)

Addressing timber thinning in riparian reserves, BLM cited the raparian reserves treatment analysis in Revised Section O of the Revised EA. (BLM Protest Decision at 6.) The objective of the treatment is to "accelerate development of large tree/old growth characteristics [`in 40 to 50 year old predominately Douglas-fir stands'] * * * by thinning young stands." (Revised Section O, Memorandum of Mar. 4, 2000, at 1.) BLM considered leaving cut trees on site as Umpqua desires, but concluded that it was necessary to remove most of the felled treees based on evidence that leaving felled trees on the ground would create a serious threat of devastating damage from Douglas Fir beetle infestation and/or wild fire. Id; see EA at 13. Thus, we find the record provides a rational basis for the BLM decision.

Umpqua accuses BLM of improperly allowing reduction of riparian reserve widths. The Northwest Forest Plan allows reduction of the interim widths of Riparian Reserves, based on a Watershed Analysis. (ROD, Attachment A at B-16.) With one exception, the Field Manager did not

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10/ Umpqua argues that BLM's failure to abide by applicable environmental protection statutes and regulations constitutes the unnecessary or undue degradation. (NA/SOR at 4 (citing 43 CFR 3809.0-5(k)).) The cited regulation is not applicable to timber sales. We find no violation of section 102(2)(C) of NEPA, or other statute or regulation, and it is not necessary do consider unnecessary or undue degradation.

approve any reduction of Riparian Reserve widths in her February 2001 Decision Documentation. In the Sale Unit 1 of the Little Big Sandy Timber Sale, she did approve a 0.6 acre reduction along one side of an intermittent stream (Stream Segment No. 11) near the boundary of that sale unit. (Decision at 10; see Revised EA at Appendix 2; Revised EA, Section O, at Revised Table 1 and Figure 1; Little Big Sandy Timber Sale Prospectus at Exhibit A.) That reduction has yet to be implemented. BLM argues that, in accordance with the Northwest Forest Plan, it has fully justified and documented this reduction. Its contention is borne out by the record. (Decision at 11; February 2001 Decision Documentation at 2; see Revised EA at 22; Revised EA, Section J at 1, 4-5; Revised EA, Section K; May 1997 Big Creek Watershed Analysis, at 141-63.) Umpqua has offered no contrary argument or supporting evidence.

Thus, we are not persuaded that Umpqua has demonstrated a violation of Northwest Forest Plan requirements, arising from the subject sales, with respect to either yarding in or reducing the interim widths of Riparian Reserves.

Umpqua asserts that BLM's failure to survey for red tree voles violates the Northwest Forest Plan. (NA/SOR at 32-33.) However, the record shows that BLM had completed surveys of the sales areas for red tree voles and other S&M species before the Field Manager's February 2001 Decision Documentation. (Decision at 1, 16; February 2001 Decision Documentation at 2; Revised EA at 33; Revised EA, Section B (Revised Issues Identified and Analyzed then Eliminated from Further Consideration), at 1-2; Revised EA, Section U (Survey and Manage/Protection Buffer Species Information), dated Apr. 9, 2001, at 1-2, 5, 7-9; BLM Answer at 16.)

Umpqua provides no evidence that the surveys failed to follow approved protocols or otherwise conformed to the requirements of the Northwest Forest Plan, and we are not persuaded that the Northwest Forest Plan required BLM to finish surveying for red tree voles outside the sale areas before approving the sales because of an interdependence of the species or for any other reason. See NA/SOR at 33 ("Red Tree vole[s] * * * depend on each other for the persistence of the species within the project [area]"); BLM Answer at 16 ("[S]urveys were * * * required [by the Northwest Forest Plan] * * * on areas where ground disturbing activities were to occur in suspected habitat" of S&M species).

Umpqua asserts that the Field Manager's decision to permit timber harvest in buffers set aside for red tree voles, mollusks, and other S&M species violates the Northwest Forest Plan. (NA/SOR at 31-32.) It contends that, for this reason, BLM was required, by 40 CFR 1508.27, to prepare an EIS, because this activity "'threatens a violation of Federal * * * requirements imposed for the protection of the environment,'" and thus constitutes a significant impact. (NA/SOR at 31 (quoting from 40 CFR 1508.27(b)(10)).) It concludes that BLM's failure to prepare an EIS violates section 102(2)(C) of NEPA.

Umpqua has identified no S&M buffers where timber will be harvested, but merely indicates that there is the possibility that buffers may have been identified when BLM undertook to survey for red tree voles, mollusks, and other S&M species during the period between the Revised EA in December 1999 and the Field Manager's February 2001 Decision Documentation. See NA/SOR at 31-32 The timber volume and acres that BLM implemented in the February 2001 Decision Documentation are the same as were analyzed in the EA before the surveys and before management recommendations regarding rare plants and wildlife within the timber sale units.

The BLM decision to go forward with the two sales does not authorize timber harvesting within any buffers set aside for red tree voles, mollusks, or other S&M species. Through its S&M process BLM established management buffers where harvesting would not occur in all of the sale units. This is evident from the changes in the size and shape of the original EA units and those offered for sale. See Decision at 1-2, 10, 16; February 2001 Decision Documentation at 2-3; Revised EA at 33; Revised EA, Section U (Survey and Manage/Protection Buffer Species Information), at 1-2, 5, 7-12, Implementation of Management Recommendations for S&M Wildlife, Implementation of Management Recommendations for Completed EA Units (Units 5, 6, 25, 32, 36DM, and 40); Prospectus (Jonesville Slugger Timber Sale) at Exhibits A and A-1; Prospectus (Little Big Sandy Timber Sale) at Exhibits A and A-1.

The designation of management buffers was completed by BLM on April 9, 2001, which was after the February 2001 Decision Documentation, but prior to BLM's April 2001 decision to go forward with the sales. The size and shape of the sale units were altered prior to BLM's April 2001 decision. It appears that those alterations were in response to BLM's management buffer designations, and the record indicates that there will be no timber cut in the buffer zones. See also BLM Answer at 16 ("At the time of the advertisement of these sales, all of the requirements for the survey and protection of [S&M] species required under the Northwest Forest Plan * * * had been completed"). Umpqua offers no evidence that BLM has approved harvesting in a buffer zone. See Sierra Club, Grand Canyon Chapter, 136 IBLA at 361;

We also find no error in the Field Manager's making the decision to approve specific timber sales contingent on the completion of BLM's S&M surveys and designation of buffers: "Prior to each Notice of Sale (which constitutes a decision document for that sale), required surveys for Survey and Manage/Protection Buffer species will be completed and appropriate management recommendations applied." (February 2001 Decision Documentation at 2, emphasis added.) By making the decision to approve a timber harvest contingent on the designation of buffers, BLM caused the sales areas to be shaped in accordance with those designations. Thus, BLM did not run afoul of the requirement of section 102(2)(C) of NEPA to prepare an EIS. It has not been shown that the subject sales (or even the Project) were likely to result in a significant impact, because they threatened a violation of the Northwest Forest Plan, and thus of a "Federal * * * requirement[] imposed for the protection of the environment." 40 CFR 1508.27.

Umpqua asserts that BLM's decision to go forward with the timber sales violates the ACS requirements of the Northwest Forest Plan, because BLM will, at best, "maintain" the Big Creek watershed in a degraded condition, and, at worst, contribute to further degradation of the watershed: "The Aquatic Conservation Strategy (ACS) objectives * * * require[] that degraded watersheds be restored and functioning watersheds be maintained." (NA/SOR at 18.) It contends that, having admitted that the watershed is "highly degraded," BLM errs by asserting that it is not required to restore the watershed, but may simply maintain its condition. Id. (citing Decision at 15).

BLM has admitted that the 16,661-acre Big Creek subwatershed, which contains 10 drainage areas (including Swamp Creek, Middle Big Creek, and Jones Creek), is, as a whole, degraded (but not highly degraded), such that it is not properly functioning or is functioning at risk with respect to all of the ACS objectives. (Decision at 15; BLM Answer at 5-6; see Big Creek Watershed Analysis at 2-4, 155, Appendix D.) Nonetheless, BLM specifically concluded that the timber sales in the Swamp Creek, Middle Big Creek, and Jones Creek drainages, are in conformance with, and will not prevent BLM from attaining the ACS objectives for the subwatershed. (Revised EA at 1; Revised EA, Section K (Revised ACS Analysis), at 1.) This conclusion is supported by evidence in the record. See Revised EA, Section K (Revised ACS Analysis), at 2-8; Biological Assessment ("Consultation Report for Effects Determinations on Listed and Proposed Fish Species and Proposed or Designated Critical Habitat"), dated Mar. 29, 2000 (BA), at 3-4, 7-13. BLM's Watershed Analysis, which determined that the subwatershed was generally in a degraded condition, specifically identified the two units of the Little Big Sandy timber sale as Priority 1 units for regeneration harvesting. See Big Creek Watershed Analysis at 164-66, Appendix G.

Umpqua argues that the timber harvesting authorized under the Project will further degrade the Big Creek subwatershed, violating the ACS strictures of the Northwest Forest Plan. However, the matter now before us is whether the Jonesville Slugger and Little Big Sandy timber sales will have that effect. Umpqua makes few assertions with respect to the specific timber sales, and, to the extent that it does, we find little or no evidence to support those assertions. See NA/SOR at 18-19. For example, Umpqua addresses yarding in Riparian Reserves, across streams, and downhill, harvesting on sensitive soils and within the Transient Snow Zone. There is no evidence that any of these activities will take place on the sale tracts. Decision at 3, 6, 11, 14; BLM Response at 8, 9; BLM Answer at 13; Letter to District Manager, Coos Bay District, Oregon, BLM, from Regional Administrator, Northwest Region, NMFS, dated June 21, 2000 (NMFS Letter), at 13-14.)

Contrary to Umpqua's assertions, BLM is not required by the Northwest Forest Plan to improve or restore the subwatershed as a condition precedent to approving the Jonesville Slugger and Little Big Sandy timber sales. See NA/SOR at 19-20. Umpqua recognizes that the issue is "what are the

objectives of the ACS." Id. at 19. At page 20 of the NA/SOR it states: "The spirit and intent of the ACS is clear in its documentation that it is aimed at restoring degraded habitats and maintaining the remaining good habitat conditions." In her June 2001 decision the Field Manager correctly noted that "'[C]omplying with the Aquatic Conservation Strategy objectives means that an agency must manage the riparian-dependent resources to **maintain the existing condition or** implement actions to restore conditions.'" (Decision at 15 (quoting from Northwest Forest Plan, Attachment A at B-10), emphasis added.) The ACS is based on nine objectives designed to maintain (prevent further degradation of) ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and to restore currently degraded habitats. (Attachment 1 (Biological Requirements and Status Under 1997 Environmental Baseline, NMFS, February 1997) to NMFS' Programmatic BO, at 39.) Each project must be consistent with ACS objectives, i.e., it must maintain the existing condition or move it within the range of natural variability. Pacific Coast Federation of Fishermen's Association v. National Marine Fisheries Service (PCFFA II), 71 F. Supp.2d 1063, 1067 (W.D. Wash.), aff'd in part, vacated in part, 253 F.3d 1137 (9th Cir. 2001). Notwithstanding the potential for minor, short-term adverse effects, actions that are fully consistent with the ACS objectives are expected to maintain or restore essential aquatic habitat functions, and should not impede recovery of Pacific salmonid habitat. (Biological Opinion and Conference Opinion, NMFS, dated Mar. 18, 1997 (Programmatic BO), at 39.) Thus, "'[m]anagement actions that do not maintain the existing condition or lead to improved conditions **in the long term** would not 'meet' the intent of the Aquatic Conservation Strategy and thus, should not be implemented.'" (Decision at 15 (quoting from Northwest Forest Plan, Attachment A at B-10).)

The ACS generally seeks to maintain and restore the health of aquatic ecosystems. It does not require BLM, in the context of approving a particular timber sale (or any other management action), to provide for improving the affected watershed's general degraded condition. "[T]he proposed action is a timber sale, not a restoration project." (Decision at 15.) "[T]he Northwest Forest Plan does not require every action conducted in a watershed to result in improvement to the watershed." (BLM Answer at 7.) The ACS objectives describe the attributes and distribution of aquatic ecosystems believed necessary to provide conditions for maintaining currently strong populations of fish and other aquatic and riparian dependent organisms and to allow for recovery of currently degraded ecosystems. (PCFFA II, 71 F. Supp.2d at 1067.)

BLM may, and should, provide for improvement. However, BLM relies on "natural disturbance and recovery processes," and it "may take decades, possibly more than a century" to achieve the ACS objectives. (Attachment 1 to NMFS' Programmatic BO at 40.) Thus, a timber sale, which would not further degrade the watershed, is not precluded if it maintains the status quo. See BLM Answer at 1-2, 7.

Umpqua argues that, in her September 30, 1999, decision in PCFFA II, Judge Rothstein effectively determined that the sales are in violation of the ACS requirements of the Northwest Forest Plan. Umpqua admits that Judge Rothstein did not rule on the validity of these sales when addressing sales where BLM had obtained Biological Opinions pursuant to section 7 of the ESA. Nonetheless, Umpqua argues that its reasoning is applicable, noting that in a June 5, 2001, order in PCFFA v. NMFS, No. C00-1757R (W.D. Wash.) (June 5 PCFFA Order), Judge Rothstein ruled that "the same issues apply even to [Not Likely to Adversely Affect] sales without Biological Opinions, like Big Creek." (NA/SOR at 20.)

When examining the evidence in the casefile and submitted by Umpqua regarding the portion of the Big Creek subwatershed likely to be affected by the two timber sales (or even the Project), we find nothing approaching the "overwhelming evidence of the ongoing degradation to the habitat of [a threatened or] endangered aquatic species" Judge Rothstein found in connection with the sales at issue in her September 1999 PCFFA II decision. PCFFA II, 71 F. Supp.2d at 1073.

We accept the relevance of that decision to the two sales. In its June 5 PCFFA Order at 5 the court found "that to the extent that NMFS' concurrence in the NLAA designation was based on the scientific methods invalidated in PCFFA II by this court and the Ninth Circuit, this concurrence is illegitimate." (See also Letter to Board from Umpqua, dated Aug. 27, 2001, at 1-2 (citing Order, PCFFA v. NMFS, No. C00-1757R (W.D. Wash.), dated Aug. 8, 2001, at 13; BLM Response at 8.)

A determination regarding whether a particular timber sale or overall forest management project is consistent with the ACS must be determined at the sale or project level (not at the watershed level), and in the short-term (less than 10 years) as well as the long-term, especially considering the cumulative site-specific impacts of all sales or projects in the affected watershed. PCFFA II, 71 F. Supp.2d at 1069-70, 1073; see PCFFA v. NMFS, 253 F.3d at 1143-47; NA/SOR at 20-22. BLM is also required to fully and sufficiently incorporate recommendations from its watershed analysis in its ACS assessment. PCFFA II, 71 F. Supp.2d at 1071-73; see PCFFA v. NMFS, 253 F.3d at 1143, 1147; NA/SOR at 22.

We do not find that, when assessing ACS compliance, BLM ignored the impacts of the sales at the sale or project level or the short term impact by focusing on watershed level and long-term impacts, or that it failed to adequately incorporate watershed recommendations in its sales determinations, or otherwise failed to conform to Judge Rothstein's ruling in her September 1999 PCFFA II decision. (See BLM Answer at 8-9; BLM Response at 6, 8.) As BLM states in its Answer:

> [BLM's] biological assessment for these sales shows [at page 7] that none of the factors in the matrix of pathways and indicators, used to make affects determinations, show any degrade factors for the aquatic environment at the

> project level in the long-term or in the short term. It shows that in all cases these factors will be maintained. [Emphasis added.]

(BLM Answer at 1.) The reference to assessment using the "Matrix of Pathways and Indicators" (Matrix), reflects an analysis by BLM (concurred in by NMFS) constructed to reveal whether and to what extent anadromous salmonids and their habitat in the Big Creek subwatershed would be affected by the Project, as demonstrated by impacts upon various primary aspects of their environment (water quality, habitat access, habitat elements, channel condition and dynamics, flow/hydrology, and watershed conditions), and the constituent elements of these basic habitat characteristics (indicators). (See BA at 7, 9-13; NMFS Letter at 2, 17-18; Attachment 2 to NMFS' Programmatic BO at 8-11; Attachment 3 to NMFS's Programmatic BO at 4, 10-13; PCFFA II, 71 F. Supp.2d at 1067.)

The Matrix "reflects the information needed to implement the Aquatic Conservation Strategy." (Attachment 3 to NMFS's Programmatic BO at 2.) The completion of the "Checklist," using the Matrix demonstrates whether ACS objectives are being met. (See Attachment 2 to NMFS' Programmatic BO at 8; Attachment 3 to NMFS' Programmatic BO at 14, 27; BA at 7; Revised EA, Section K at 2-8; PCFFA II, 71 F. Supp.2d at 1067.) The Checklist incorporates an assessment first of the "Environmental Baseline," reflecting the current condition of the aquatic ecosystem, given the continuing effects of previous actions and resource commitments on Federal, State, and private lands in the Big Creek subwatershed. (BA at 7, 9-13; Attachment 2 to NMFS's Programmatic BO at 10-11.) It then incorporates an assessment of likely added impacts the specific sales (and the proposed Project) will have on that ecosystem, reflecting that all of the indicators will be maintained. (BA at 7, 9-13; Attachment 2 to NMFS' Programmatic BO at 11.) This demonstrates that BLM undertook an appropriate comprehensive analysis, and found that proceeding with the individual sales (and the Project) would result in maintaining the existing condition of the subwatershed.

We, therefore, find that BLM did not violate the ACS requirements of the Northwest Forest Plan when it approved the Jonesville Slugger and Little Big Sandy timber sales. In Re Red Top Salvage I Timber Sale, 142 IBLA at 113, 115. "[M]ere difference of opinion provides an inadequate basis for disturbing decisions of BLM personnel in the field." In Re North Murphy Timber Sale, 146 IBLA at 325-26.

Finally, Umpqua asserts that BLM violated section 7 of the ESA by failing to formally consult with NMFS, based on its erroneous determination that approved timber harvesting, road building, and related activity were not likely to adversely affect (NLAA) the threatened Oregon Coast ESU Coho Salmon. (NA/SOR at 13-18.) It asserts that BLM deliberately made an NLAA determination to avoid the effect of earlier Judge Rothstein rulings in PCFFA which overturned timber sales for lack of compliance with the ACS requirements of the Northwest Forest Plan. (NA/SOR at 15.)

Umpqua seeks to put BLM's NLAA determination in issue, stating "[o]ur appeal must cover the entire project's NLAA determination because there is no such thing as separate ESA determination for one small part of that project." (NA/SOR at 14.) We disagree with this assertion. In its March 6, 2000, BA, BLM concluded that each of the actions considered in the EA and approved in the February 2001 Decision Documentation for the Project, including each of the two sales was not likely to adversely affect the threatened Coho Salmon. (BA at 1-2, 7-13; NMFS Letter at 2, 11-18.) For reasons stated above, we focus solely on whether BLM properly determined that the Jonesville Slugger and Little Big Sandy timber sales are NLAA the threatened Coho Salmon. 11/

Umpqua argues that BLM's NLAA determination is incorrect because the approved activity has more than a negligible potential to result in 'take' within the meaning of section 3 of the ESA, as amended, 16 U.S.C. § 1532(19) (1994), and to have adverse effects on a threatened or endangered species. (NA/SOR at 13 (referring to Attachment 3 to NMFS' Programmatic BO at 7, 15).) It contends that this potential exists by reason of the nature of the approved activity, stating that "[r]egeneration harvests have always resulted in a LAA [Likely to Adversely Affect] before because of their 'potential' for adverse effects." (NA/SOR at 6; see id. at 15-18.)

Fish species listed as threatened or endangered species and their critical habitat are afforded protection under section 7 of the ESA. BLM may not take action likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of its critical habitat. 16 U.S.C. § 1536(a)(2) (1994); Natural Resources Defense Council v. Houston, 146 F.3d 1118, 1125, 1127 (1998). To assure that a taking is avoided, BLM is required, by section 7(a)(2) of the ESA, to consult with NMFS whenever it finds that the activity may affect a listed species and/or its critical habitat. 16 U.S.C. §§ 1532(15) and 1536(a)(2) (1994); 50 CFR 402.01 and 402.14(a) and (b)(1); Natural Resources Defense Council v. Houston, 146 F.3d at 1125-27. This consultation may be informal when BLM determines that the proposed activity is not likely to adversely affect a listed species and/or its critical habitat, and NMFS concurs with BLM's determination. 50 CFR 402.14(a) and (b)(1); Natural Resources Defense Council v. Houston, 146 F.3d at 1126; Sierra Club, Angeles Chapter, Santa Clarita Group, 156 IBLA 144, 168 (2002).

BLM concluded that the timber sales may, but would not be likely to, adversely affect the threatened Coho Salmon or its critical habitat.

11/ We reject Umpqua's assertions that the sales are NLAA "only because the entire [P]roject was called a[n] NLAA." (NA/SOR at 14; see id. at 9 ("The Project's analysis led to a[n] NLAA, which led the implemented sales to be a[n] NLAA").) BLM determined not only that the Project was NLAA, it also found that each of the constituent parts, including the sales at issue here was NLAA.

(BA at 1, 8; BLM Answer at 1-4; see Attachment 3 to NMFS' Programmatic BO at 6.) BLM specifically considered whether there was more than a negligible probability that the sales would result in a "take" of Coho Salmon, or destruction or adverse modification of its critical habitat. It concluded that there was only a negligible probability. (BA at 8; Decision at 3; BLM Answer at 2-4.) It thus employed the standard advanced by Umpqua, which was taken from NMFS' March 1997 Programmatic Biological Opinion. BLM also consulted with NMFS informally, and NMFS concurred with BLM's assessment. (NMFS Letter at 2, 17-18.)

Umpqua makes no effort to demonstrate how BLM's decision to authorize the two sales threatens to jeopardize the continued existence of the Coho Salmon, to destroy or adversely modify its critical habitat, or even to result in a "take," by constituting an effort "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct," such species. 12/ 16 U.S.C. § 1532(19) (1994) (1994). Nor have they shown that BLM was required, by section 7(a)(2) of the ESA and 50 CFR 402.14(a), to formally consult with NMFS, because such action was likely to adversely affect the Coho Salmon, or its critical habitat, contrary to BLM's assessment.

There are no fish-bearing streams (including streams providing habitat for Oregon Coast ESU Coho Salmon) running through or adjacent to any of the units involved in the Jonesville Slugger or Little Big Sandy timber sale. (Decision at 3; Revised EA at 32; Revised EA, Section J at 5; Big Creek Watershed Analysis at 115; NMFS Letter at 15; BLM Answer at 3.)

BLM determined that timber harvesting and road building, given implementation of project design features and other mitigation measures, were unlikely to result, either in the short-term or in the long-term, in increased surface runoff or sedimentation, or have other consequences, which might negatively impact the quality or quantity of water in local streams, within or downstream of the Project area. (Revised EA at 4; Revised EA, Section B at 4-5; Revised EA, Section F; Revised EA, Section J at 1-5, 7-8; Revised EA, Section M at 1-2, 4-7; BA at 7, 9-13; Decision at 14.) NMFS concurred with BLM's analysis. (NMFS Letter at 17-18.) Thus, BLM and NMFS concluded that the aquatic ecosystem was not likely to suffer from the approved sales and associated activity.

12/ Umpqua relies on NMFS' March 1997 Programmatic Biological Opinion when asserting that, if a forest management project fails to comply with the Northwest Forest Plan's standards and guidelines "for the relevant land [use] allocations," including late-successional reserves, key watersheds, and riparian reserves, it "is an automatic '[l]ikely to jeopardize,'" or, "[a]t the least," an LAA. (NA/SOR at 17 (quoting from Attachment 2 to NMFS' Programmatic BO at 14).) However, it does not demonstrate that the timber sales will fail to comply with those standards and guidelines. See BA at 3; Northwest Forest Plan, Attachment A at C-1 to C-61.

Umpqua has failed to present evidence to the contrary. It asserts that surface runoff will result in adverse changes to downstream water quality and quantity, and have negative implications for threatened Coho Salmon. See, e.g., NA/SOR at 15-16. However, it presents no evidence that the surface runoff will occur in quantities amounts and places likely to result in changes in water quality and quantity substantial enough to have an adverse impact on downstream fish and fish habitat. It asserts that the sales will permit a large-scale regeneration harvest in a degenerated watershed which provides water to downstream habitat for the Coho Salmon and it is likely that the harvest and related activities will adversely affect the Coho Salmon. (See, e.g., NA/SOR at 16-17.) However, it tenders no evidence to support this contention. Nor has Umpqua met the burden of showing that a project design feature or other mitigation measure intended to prevent any adverse impact to Coho Salmon was not properly considered by BLM, or is likely to fail or otherwise not accomplish its purpose. Oregon Natural Resources Council, 116 IBLA at 362 n.7.

Umpqua argues that NMFS' concurrence in BLM's NLAA determination is directly contrary to Judge Rothstein's June 5, 2001, order in PCFFA v. NMFS, No. C00-1757R (W.D. Wash.). This decision invalidated NMFS's concurrence in an NLAA determination by the Bureau of Indian Affairs regarding the Chu-aw Clau-she timber sale. (NA/SOR at 13.) They assert that the judge's order was applicable to "all NLAA timber sales subject to the ACS." Id. at 14 (citing June 5 PCFFA Order at 6-7). Noting that the Chu-aw Clau-she sale is in the immediate vicinity of and within the same watershed as the two sales, Umpqua states that "[t]hese sales are identical in every way." (NA/SOR at 13.) It contends that the NLAA determination at issue in PCFFA contains the "exact same flaws" as the NLAA determination now before us. Id. at 14. Umpqua concludes that Judge Rothstein's order is equally applicable to the Jonesville Slugger and Little Big Sandy timber sales.

We find nothing in Judge Rothstein's June 5 PCFFA Order which explicitly or implicitly holds that NMFS' concurrence in BLM's NLAA determination regarding the Jonesville Slugger and Little Big Sandy timber sales is contrary to section 7 of the ESA. The effect of that order extended only to the sales which had been specifically challenged in PCFFA v. NMFS, No. C00-1757R (W.D. Wash.). See June 5 PCFFA Order at 7, where Judge Rothstein stated that "NMFS is enjoined from using the methods, struck down in PCFFA II, in further actions regarding the timber sales challenged in this case." (Emphasis added).

To the extent that Judge Rothstein's June 5 PCFFA Order may have implications for other sales, it precludes NMFS' reliance on "scientific methods invalidated in PCFFA II by this court and the Ninth Circuit." Reliance on those methods had been enjoined in that case. (June 5 PCFFA Order at 5; see id. at 7.) We have no jurisdiction here to adjudicate the validity of NMFS' concurrence in this case. We concern ourselves only with whether BLM's NLAA determination was supported by the facts, and whether BLM otherwise abided by its obligations under section 7 of the ESA. Nothing in Judge Rothstein's order speaks directly to that question. Nor is there any evidence here that BLM employed the scientific methodology

invalidated by the courts in PCFFA II. See BLM Answer at 2, which states that "BLM did not use the methods invalidated in the court decision." We find nothing which causes us to believe that BLM's NLAA determination with respect to the Jonesville Slugger or Little Big Sandy timber sale was in error, or that BLM otherwise failed to fulfil its responsibilities under section 7 of the ESA.

Finally, we note that the Coast ESU Coho Salmon is no longer a threatened species under the ESA. Subsequent to the filing of this appeal, NMFS' August 10, 1998, listing of the Oregon Coast ESU Coho Salmon has been overturned by a Federal district court as arbitrary and capricious, because, while it properly encompassed natural populations of Oregon Coast ESU Coho Salmon, it did not provide a rational basis for not including hatchery populations of such fish. Alsea Valley Alliance v. Evans, No. 99-6265-HO (D. Or. Sept. 10, 2001). We have not been informed whether this ruling has been appealed nor do we know whether NMFS has taken steps to broaden its listing, thus complying with the court's directive.

However, so long as the Federal district court's ruling remains in effect, its action renders BLM's original decision not to formally consult with NMFS proper under section 7 of the ESA. In addition the removal of this species from the protective requirements of that statute renders BLM's March 2000 Biological Assessment and NMFS's June 2000 letter of concurrence statutorily unnecessary.

We, therefore, find no violation of section 7 of the ESA in the case of BLM's approval of the subject timber sales. Natural Resources Defense Council v. Houston, 146 F.3d at 1125-27.

To the extent they are not addressed herein, all other allegations of error of fact or law asserted by Umpqua are rejected as contrary to the facts or law, or immaterial.

In summary, we find that the Field Manager properly determined, in her February 2001 Decision Documentation and FONSI, that there will be no significant impact from approving the proposed Jonesville Slugger and/or Little Big Sandy timber sales. BLM has, considering all relevant matters of environmental concern, taken a hard look at potential environmental impacts and made a convincing case that no significant impact will result therefrom or that any such impact will be reduced to insignificance by adoption of the identified mitigation measures. Nez Perce Tribal Executive Committee, 120 IBLA at 37-38. Thus, the Field Manager properly found that no EIS was required.

Umpqua failed to carry the burden of demonstrating, with objective proof, that BLM failed to, or did not adequately, consider a substantial environmental problem of material significance to the proposed action, or otherwise failed to abide by section 102(2)(C) of NEPA. Guido Rahr, 143 IBLA 338, 344 (1998); Oregon Natural Resources Council, 131 IBLA 180, 186 (1994); Southern Utah Wilderness Alliance, 127 IBLA at 350, 100 I.D. at 380; Red Thunder, 117 IBLA at 175, 97 I.D. at 267; Sierra Club, 92 IBLA at 303. The fact that Umpqua has differing opinions about likely

environmental impacts or prefers that BLM take another course of action does not demonstrate that BLM violated the procedural requirements of NEPA. San Juan Citizens Alliance, 129 IBLA 1, 14 (1994).

Having failed to show that BLM did not appropriately comply with the environmental review requirements of section 102(2)(C) of NEPA or otherwise demonstrate error in BLM's decision making process, the Field Manager properly denied Umpqua's protest to the proposed Jonesville Slugger and Little Big Sandy timber sales in her June 2001 decision.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, BLM's motion to dismiss the appeal is granted with respect to Oregon Natural Resources Council Action and Friends of the Coquille River, Umpqua's petition to stay the effect of the Field Manager's June 2001 decision is denied, and that decision is affirmed.

R. W. Mullen
Administrative Judge

I concur:

C. Randall Grant, Jr.
Administrative Judge

THE HONORABLE BARBARA J. ROTHSTEIN

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATION; INSTITUTE FOR FISHERIES RESOURCES; OREGON NATURAL RESOURCES COUNCIL; UMPQUA WATERSHEDS, INC.; COAST RANGE ASSOCIATION; and HEADWATERS, Plaintiffs, v. NATIONAL MARINE FISHERIES SERVICE, Defendant.	Civil No. C 99-0067 R DECLARATION OF GORDON REEVES, Ph.D.

I, Gordon Reeves, depose and say:

1. I am a fish and aquatic ecologist with expertise in the assessment of the impact of human activities and natural processes on aquatic ecosystems and the associated biota. I also have expertise in natural resource management, watershed restoration, and conservation biology of anadromous salmonids. I have a degree in Biology from the State University of New York, College at Oswego, a M.Sc. in fisheries science from Humboldt State University, and a Ph.D. in fisheries science from Oregon State University. I am currently a research fish biologist with the USDA

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Forest Service, Pacific Northwest Research Station, Corvallis, OR. I have been employed in that capacity since 1985. A copy of my curriculum vitae is attached as Exhibit 1.

2. I have conducted extensive field research in watersheds on federal lands throughout western Oregon and southeast Alaska. I have published numerous peer-reviewed articles and book chapters on the ecology of anadromous salmonids, the impact of human activities and natural processes on their freshwater habitats, and watershed restorations. I was a member of the Panel on Late Successional Forests commissioned by the U.S. House of Representatives (a.k.a. The Gang of Four), the team that developed the PacFish recommendations for riparian areas on federal lands in the Pacific Northwest, Idaho, and Alaska, the Scientific Assessment Team (SAT), and co-leader of the Aquatic Team of the Forest Ecosystem Management Assessment Team (FEMAT) that developed the Aquatic Conservation Strategy (ACS) that was adopted as part of the Northwest Forest Plan (NWFP). I also assisted with the aquatic component of the Tongass Land Management Plan revision for southeast Alaska and the Interior Columbia Basin Assessment.

3. I have reviewed the brief of the Plaintiffs and the declaration of Dr. C. Frissell. I make the following statements based on my personal knowledge and experience.

The Aquatic Conservation Strategy - Components

4. The ACS articulated by the FEMAT (Exhibit 2; AR 15a) was designed to maintain currently properly functioning aquatic ecosystems and to restore degraded ecosystems. The ACS was designed to provide a scientific basis for protecting aquatic ecosystems and planning for sustainable resource management. It was based on strategies developed previously in the "Gang of Four", PacFish, and SAT.

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The ACS was more comprehensive than these earlier strategies. In the short term (i.e., 10-20 years), the ACS was designed to afford protection to watersheds that currently had good habitat and fish populations. The long-term goal (i.e., 100+ years) was to develop watersheds that functioned properly ecologically and supported acceptable populations of fish and other aquatic and riparian dependent organisms across the region covered by NWFP.

5. The ACS has four major components: (1) key watersheds; (2) riparian reserves; (3) watershed analysis; and (4) watershed restoration. Each has a specific purpose. Key watersheds (V-46) were watersheds (5th to larger 6th field)[1] that either were: (1) considered to be ecologically intact and had favorable habitat for fish populations and other aquatic and riparian dependent organisms, or (2) were currently in a degraded states but were judged to have the greatest potential in the short term to be restored with an active watershed restoration program. These watersheds were distributed throughout the area covered by the NWFP. Key watersheds that were ecologically intact were assumed to have the best remaining fish habitats and populations and their protection was the short-term focus of the ACS. Populations in these watersheds would presumably provide sources of individuals to recolonize degraded watersheds as they recovered. Key watersheds that are currently degraded had less productive habitat for fish. Ecological processes that create and maintain habitat over time are altered in these systems. It was believed that these watersheds would recover relatively quickly under a

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[1] FEMAT specified that aquatic ecosystems were of third to fifth order (Exhibit 2, V-13; AR 15a), and described the attributes of such systems. Since then, aquatic ecosystems are described as fields. The size of the watershed determinates the category. Third to fifth order watershed are now classified as fifth or sixth field depending on size. Fifth field ranges from 20-200 square miles and are referred to as watersheds. (Id., Appendix V-I) Sixth field ranges from 2-50 square miles and are referred to as subwatersheds.

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restoration focus and provide the best opportunities for population expansion in the short term. Management actions were precluded from all parts of key watersheds until a watershed analysis was completed in order to reduce the risk from management activities.

6. A riparian reserve (Exhibit 2, V-32; AR 15a) was the portion of the watershed that had direct influence on the aquatic ecosystem. This included the area around fish bearing and non-fish bearing streams. Riparian reserves provided the suite of ecological processes and functions required that influence the productivity and integrity of aquatic ecosystems. Activities in all riparian reserves were prohibited until a watershed analysis was completed.

7. Watershed analysis (Exhibit 2, V-53; AR 15a) was the procedure to identify and evaluate the geomorphic and ecological processes operating in a watershed. This formed the basis for planning and conducting activities within a watershed and evaluating their impacts. The size of the watershed was originally specified as 20-200 square miles, approximately a 5th field watershed. However, this size has not been strictly adhered to. Some 5th field watersheds were too large or too complex ecologically to be analyzed effectively. Watershed analysis, as a consequence, has been conducted in 5th field and aggregates of 6th field subwatersheds. The watershed analysis is supposed to guide planning that achieves the ACS within the watershed.

8. Watershed restoration (Exhibit 2, V-59; AR 15a) was intended to restore degraded ecosystems at the watershed scale. It was to be a comprehensive program that restored the ecological processes and functions that created and maintained habitat conditions for fish and other aquatic and riparian organisms.

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9. The ACS objectives provide a framework for managing aquatic ecosystems primarily at watershed and landscape (i.e., multiple watershed) scales. They describe the attributes and distribution of aquatic ecosystems believed necessary to provide conditions for maintaining currently strong populations of fish and other aquatic and riparian dependent organisms and to recover currently degraded ecosystems. They are not intended to be a hard set of criteria that could or can be applied equally at all spatial scales of concern (i.e., site, watershed, province, and region).

Ecosystem Dynamics and the Range of Variability

10. FEMAT emphasized the dynamic nature of aquatic ecosystems in the region of the NWFP and the need to maintain the processes that create and maintain habitat through time (Exhibit 2, V-28; AR 15a). Aquatic ecosystems in the NWFP region are dynamic as a result of the physical characteristics, natural disturbance events, and climatic features of the region [Naiman et al. 1992 (Exhibit 3); Benda et al. 1997 (Exhibit 4)]. Watersheds in the NWFP region are generally in steep, mountainous terrain that is inherently unstable and receives large amounts of precipitation. Much of the region was historically subjected to periodic natural disturbances such as wildfire and large wind storms. The unstable terrain coupled with the stochastic nature of storm and disturbance events resulted in pulses of materials (i.e., sediment and wood) being delivered to stream channels. Consequently, there was a wide variation in conditions at the site and watershed scale over time (Naiman et al. 1992, Benda et al. 1997).

11. Understanding the implications of the focus on ecosystems and ecosystem dynamics that were emphasized by the FEMAT is required in order to understand how the ACS is to be applied at the various spatial scales. An important, but not well understood, implication of employing an ecosystem level

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strategy based on disturbance is that all parts of a watershed or subwatershed or all subwatersheds may not be in "good" condition at every point in time [Naiman et al. 1992, Reeves et al. 1995 (Exhibit 5)]. As described in the previous paragraph, disturbance events, such as wildfire, landslides, and floods, maintained the long-term productivity of aquatic ecosystems in the area covered by the NWFP. These events would periodically deliver large amounts of materials (i.e., sediment and wood) to valley bottoms and streams, often resulting in periods of "degraded" conditions. Over time, several years to decades, systems would develop conditions more favorable to fish. As a result, the historic landscape, and watersheds within it, were a mosaic of patches of good habitat or subwatersheds in "good" condition interspersed with patches in less favorable conditions. Reeves et al. (1995) described the range of these conditions for streams in subwatersheds with little or no impacts from human activities in the sandstone geology of the central Oregon coast. Subwatersheds with degraded physical conditions supported fish communities with low diversity and biomass. These were characterized by channels with either deep deposits of gravel and few pieces of large wood or channels with bedrock and many pieces of large wood. In contrast, subwatersheds in good condition were those that had intermediate amounts of gravel, cobble, and large wood. These conditions supported a fish community that had a high diversity and biomass. Conditions within a subwatershed were not static but changed through time, much as vegetation did; systems that were in less productive conditions became more productive and productive systems may have become less productive. The result was a mosaic of conditions in watersheds and subwatersheds that shifted across the landscape with time. Reeves et al. (1995) argued that Pacific salmon (*Oncorhynchus* spp.) had life-history attributes that allowed them to persist in such an environment.

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12. The ACS represents a major change in management of aquatic ecosystems. It requires consideration of large spatial (i.e., watershed to landscapes) and temporal scales (i.e., ≥100 years) and of the dynamic processes operating in aquatic ecosystems in the area covered by the NWFP. The ACS is supposed to maintain aquatic ecosystems within the range of variability at the site[2] and small subwatershed scale and the larger subwatershed and watershed scale to provide for acceptable populations of anadromous salmonids and other targeted organisms.

13. At the site or smaller subwatershed the range of variability includes conditions that were immediately favorable to fish to those that were not very productive (Reeves et al. 1995, Benda et al. 1997). Such large variability in conditions at small spatial scales has been observed in terrestrial systems by researchers in coastal Oregon (Wimberly et al. in press) and other areas (Turner et al. 1993). Time from the last disturbance event determined the condition at the small subwatershed to a large extent. More recently disturbed sites or subwatersheds were less productive and those several years to decades away from disturbance were more favorable for fish. Variability in the pattern of conditions would be expected to differ among sites in a watershed based on geomorphology. Sites in unconstrained reaches (i.e., wide valley, low gradient sites of natural deposition) had a greater range of natural variability than did sites in constrained reaches (i.e., higher gradient, narrow valley reaches).

Application of the ACS at Different Spatial Scales

14. Determining consistency with the ACS at the site or small subwatershed is not as simple as assuming that all sites or small subwatersheds need to be in "good" condition at all times and that any actions that may "degrade" a site or small

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[2] The site ranges in size from 0.1 to 1 square mile (Exhibit 2, Appendix V-I; AR 15a).

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subwatershed violates the ACS. As described in the previous paragraph, conditions at the small subwatershed may range from very favorable to unfavorable for fish over time. The ACS aims to allow for the expression of these variable conditions at a site or small subwatershed. However, it is not possible to evaluate consistency with the ACS at the sites scale by simply looking at the individual sites alone.

15. Consistency at the small subwatershed is determined by the range of variability established at the watershed or subwatershed. The range of variability at the watershed or sub watershed scale is the distribution of conditions of smaller subwatersheds that support acceptable populations of anadromous salmonids and other aquatic and riparian dependent organisms. It may be expressed as the frequency distribution of productive and non-productive sites and subwatersheds in a subwatershed or watershed, respectively (Benda et al. 1997). The ACS was designed to maintain and restore this variability or some desired range of variability similar to the natural range of watersheds that will support acceptable levels of fish populations.

16. Watershed analysis as proposed by FEMAT should identify this range of variability at the watershed level. This was then expected to guide management actions in the watershed and establish the criteria for determining consistency with the ACS at the watershed or subwatershed level. If the current distribution of conditions was determined to be within the acceptable range of variability for the watershed or subwatershed, then presumably sites are in compliance with the ACS. If the distribution of conditions was outside the acceptable range of variability then the watershed or subwatershed was out of compliance with the ACS. Management actions that would degrade a site or small subwatershed were not expected to proceed under such circumstances unless it was established that the actions would bring the system back within the acceptable level of variability in the long-term and

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this outweighed any short-term negative impacts. Management activities are focused on restoration in such cases. The potential impact of the aggregate of proposed activities should be evaluated and the potential impact of this aggregate on the range of variability determined. Actions that alter the distribution outside of the desired range should be modified or eliminated.

17. The Riparian Reserve network was to provide opportunities for the ecological processes that create and maintain habitat through time to be expressed (e.g., delivery of wood sediment and water, input of nutrients, etc.). Management was to insure that Riparian Reserves continued to function properly. Watershed restoration was to restore the necessary ecological processes where they were lost or altered as a result of past management activities.

18. In summary, aquatic ecosystems in the range of the NWFP are dynamic and experience a wide range of conditions. All systems or parts of systems are not necessarily in good condition at every point in time. The ACS was designed to maintain this pattern so to provide for an acceptable number and distribution of watershed and subwatersheds that support acceptable populations of aquatic organisms. Determining consistency at the site scale requires understanding of the required range of variability established at the watershed/subwatershed scale. The presence of degraded conditions at individual sites or degraded subwatersheds can not be always be interpreted as failure to comply with the ACS.

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I declare under penalty of perjury that the foregoing is true and complete.

DATED this 27 day of May, 1999.

Gordon H Reeves

Gordon Reeves

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATION; INSTITUTE FOR FISHERIES RESOURCES; OREGON NATURAL RESOURCES COUNCIL; UMPQUA WATERSHEDS, INC.; COAST RANGE ASSOCIATION; and HEADWATERS,

Plaintiffs,

v.

NATIONAL MARINE FISHERIES SERVICE,

Defendant,

and

DOUGLAS TIMBER OPERATORS, INC. and NORTHWEST FORESTRY ASSOCIATION,

Defendant-Intervenors.

NO. C99-67R

ORDER GRANTING PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT, DENYING DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT AND DISMISSAL AND GRANTING CROSS-MOTIONS TO STRIKE IN PART

THIS MATTER comes before the court on the parties' cross-motions for summary judgment, and cross-motions to strike evidence

filed in support of summary judgment, and defendant-intervenors' motion for summary judgment and motion to dismiss.[1] The court has considered the pleadings and documents filed in support of and in opposition to the motions and the relevant administrative record. Being fully advised, the court grants plaintiffs' motion for summary judgment, denies defendants' motions for summary judgment and to dismiss and grants the cross-motions to strike in part.

I. BACKGROUND[2]

Plaintiffs are six Oregon-based organizations representing the interests of commercial fishermen and/or environmental causes. They have sued the National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA), 16 U.S.C. § 1536. The State of Oregon, Douglas Timber Operators, Herbert Lumber and Superior

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[1]Defendant-intervenors move to dismiss on the grounds that the court lacks subject matter jurisdiction and that plaintiffs have failed to join indispensable parties. The court rejected these arguments in a previous suit between these parties, Pacific Coast Federation of Fishermen's Associations, et al. v. National Marine Fisheries Service, No. 97-775R (PCFFA I), and they are not repeated here. Defendant-intervenors also move to dismiss on the ground that the court lacks a complete administrative record. Defendant-intervenors, however, have submitted the documents they contend are necessary to complete the record by way of declaration.

[2]The procedural and factual background of this controversy are set out in the court's March 25, 1999, order granting plaintiffs' motion for a preliminary injunction and in the court's May 29, 1998, amended order granting defendants' motion for summary judgment in part. The court only recites here those facts necessary to understand its holding.

Lumber have joined the suit as defendant-intervenors.[3] Plaintiffs challenge four biological opinions issued by NMFS on the impacts of 24 federal timber sales in the Umpqua River Basin on the Umpqua cutthroat trout and the Oregon coastal coho salmon, fish species that have been listed as threatened or endangered under the Endangered Species Act. Plaintiffs ask the court to vacate the four opinions.

In a previous suit between these parties, plaintiffs challenged a Programmatic Biological Opinion (BO)[4] NMFS issued on March 18, 1997. In the Programmatic Biological Opinion, NMFS concluded that the continued management of public land in the Umpqua River Basin in Oregon under the United States Forest Service's (USFS) existing Land and Resource Management Plans (LRMPs) and the Bureau of Land Management's (BLM) existing Resource Management Plans (RMPs) would not jeopardize the survival of the Umpqua cutthroat trout. In that suit, plaintiffs contended that NMFS failed to use the best available scientific information in reaching its "no jeopardy" conclusion as required by the ESA, that it did not consider enough evidence in reaching its "no jeopardy" conclusion,

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[3]In discussing the defendants' substantive arguments, the court refers to the defendants collectively as "NMFS" unless otherwise indicated.

[4]The parties also refer to the Programmatic Biological Opinion as the "Plan BO," "Northwest Forest Plan BO," or "NFP BO." For consistency the court uses "Programmatic Biological Opinion."

that the conclusion conflicted with evidence before the action agencies and that the Programmatic Biological Opinion authorized site-specific actions without adequate consultation as required by the ESA. Plaintiffs asked the court to invalidate the March 18, 1997 Programmatic Biological Opinion and order the government defendants to reconsult on the continued implementation of USFS and BLM's Umpqua River Basin management plans. Plaintiffs also sought an order prohibiting USFS and BLM from "tiering to" (relying on) the Programmatic Biological Opinion to authorize any site-specific projects or management actions that may affect the listed fish. A central contention in that suit was whether NMFS had ensured compliance with the Aquatic Conservation Strategy (ACS), a component of the Northwest Forest Plan. The Northwest Forest Plan adopted standards and guidelines for forest management within the range of the northern spotted owl. The ACS addresses the habitat needs of salmonids on federal lands within the range of the northern spotted owl.

The court upheld the Programmatic Biological Opinion. And it held that USFS and BLM could properly tier to the Programmatic Biological Opinion in their respective management plans. The court found that NMFS did not act arbitrarily or capriciously in assuming that the USFS and BLM would implement the LRMPs and RMPs in a manner consistent with the ACS. The court held, however, that NMFS could not rationally reach a "no jeopardy" conclusion in

reviewing the agencies' site-specific biological opinions without analyzing whether the proposed projects did, in fact, comply with the ACS. Thus, the court held that NMFS could properly assume on the programmatic level that the agencies' proposed actions would comply with the ACS, but found that it had failed to ensure or verify ACS compliance on the site-specific or project level.

Following the court's decision in PCFFA I, the government defendants consulted on 24 timber sales covered by the biological opinions at issue in this litigation. In November and December 1998, NMFS issued four biological opinions concluding that the proposed timber sales would not jeopardize coho or cutthroat survival and recovery.[5] AR 1 at 14, 1s-3s. In the instant suit, plaintiffs challenge NMFS's new biological opinions. They contend that the new opinions suffer from the same flaw in that they are inadequate to ensure or verify the action agencies' compliance with the ACS.

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[5]Twelve of the timber sales at issue in PCFFA I are at issue here because they were submitted for reconsultation following the court's order: Little River DEMO, Final Curtain, Dream Weaver, Buck Fever, Sweet Pea, Buck Creek Commercial Thin, E-mile, Red Top Salvage II, Lower Conley, Foghorn Cleghorn Commercial Thin, Sugar Pine Density Management and Diamond Back. The remaining timber sales were proposed since the court's order and have, therefore, not been reviewed by the court.

II. DISCUSSION

A. Motions to strike

Both sides have filed extra-record evidence in the form of declarations. Both sides move to strike the other sides' extra-record evidence.[6] Specifically, plaintiffs seek to strike portions of Michael P. Tehan's declaration and all of Daniel R. Kenney's declaration because they are either not proper extra-record submissions or because they are impermissible expert opinions. Defendant seeks to strike Christopher Frissell and Mark Powell's declarations on the same basis.

Extra-record evidence is admissible to show the agency has not considered all relevant factors and to explain technical matters:

> If the reviewing court finds it necessary to go outside the administrative record, it should consider evidence relative to the substantive merits of the agency action only for background information, . . . or for the limited purposes of ascertaining whether the agency considered all the relevant factors or fully explicated its course of conduct or grounds of decision . . . Consideration of the evidence to determine the correctness or wisdom of the agency's decision is not permitted, even if the court has also examined the administrative record.

ASARCO, Inc. v. United States Envtl Protection Agency, 616 F.2d 1153, 1158 (9th Cir. 1980). The court will consider the challenged

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[6]Plaintiffs move, in the alternative, for leave to file a surreply brief on the summary judgment motions. The court finds that the summary judgment motions have been adequately briefed and the motion is denied on that basis.

evidence only for background information and hereby grants the cross-motions to strike to the extent the challenged declarations contain opinion evidence or evidence pertaining to the correctness of the challenged agency action.

B. Summary judgment motions

1. Standard of review

Summary judgment is appropriate where there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56. A biological opinion is a final agency action that may be set aside under the Administrative Procedure Act[7] if the court finds it is "arbitrary, capricious, an abuse of discretion, or not otherwise in accordance with law." Bennett v. Spear, 520 U.S. 154, 174 (1997). A biological opinion is arbitrary and capricious if the agency has "entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). A biological opinion is also invalid if it does not employ the best available scientific information as required by 16 U.S.C. § 1536(a)(2). Greenpeace Action

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[7] 5 U.S.C. § 706(2)(A).

v. Franklin, 14 F.3d 1324 (9th Cir. 1992).

2. ACS consultation procedure

The ACS has nine stated objectives aimed at maintaining or restoring the salmonid's aquatic habitat. The objectives provide a framework for managing aquatic ecosystems. The objectives describe the attributes and distribution of aquatic ecosystems believed necessary to provide conditions for maintaining currently strong populations of fish and other aquatic and riparian dependent organisms and to allow for recovery of currently degraded ecosystems. See Reeves Decl. at 5, ¶ 9. The ACS has four essential features designed to accomplish the nine objectives: 1) establish riparian reserves (an allocation of land associated with riparian areas with special standards and guidelines that restrict management activities in those areas); 2) designate key watersheds (watersheds important to the at-risk fish stocks); 3) utilize watershed analysis procedures for evaluating biologic processes in specific watersheds; and 4) provide for watershed restoration. AR 21 at B-9.

As part of the Northwest Forest Plan consultation, the Programmatic Biological Opinion endorsed a streamlined consultation process. Under the streamlined consultation process, interagency teams meet to evaluate specific forest management activities. When USFS or BLM proposes to take an action that may affect a threatened or endangered species covered by the Programmatic

Biological Opinion, a "Level 1" team (an interagency team that includes a NMFS biologist), conducts an analysis to determine whether the project is likely to adversely affect the species. The Level 1 team records information regarding a specific project using a "matrix of pathways and indicators" set forth in the Programmatic Biological Opinion and a checklist.

If the Level 1 team cannot reach unanimous agreement on a project's impacts and consistency with the ACS, the action is elevated to the Level 2 team, an interagency team of scientific professionals. The project can also be elevated to the Level 3 team to resolve differences. Once there is consensus on project effects and consistency with the ACS, the project is forwarded to NMFS for formal consultation if necessary. With the exception of the proposed Little River DEMO sale, which was the subject of the court's preliminary injunction, none of the other timber sales at issue in this litigation was elevated by the Level 1 team.

The matrix and checklists reflect information needed to implement and attain the ACS objectives. It is divided into "pathways," which indicate water quality, habitat access, habitat elements, flow/hydrology, channel conditions and dynamics and watershed conditions. The pathways are broken down into "indicators" addressing specific components of each habitat characteristic. The matrix provides three possible characterizations of the existing condition of each habitat indicator that correspond to

a statement about the habitat condition: 1) poorly functioning, 2) at risk or 3) not properly functioning. For each habitat indicator, the checklist provides columns corresponding to the three characterizations. It also provides columns to indicate whether the proposed action will restore, maintain, or degrade the habitat condition for each indicator.

3. ACS compliance

In the earlier suit, there was evidence in the record, as evidenced by the matrixes and checklists for the proposed sales, that the proposed sales would degrade the habitat conditions at the project or site-specific level. Many of the checklists, for example, documented poorly functioning or at-risk habitat conditions. Following the court's decision, the action agencies reinitiated consultation for twelve of the sales at issue in PCFFA I[8] in order to document ACS compliance and implementation and initiated consultation for the other sales before the court. Plaintiffs contend that during the reconsultation process, the agencies refocused their criteria for assessing ACS compliance in a manner that gave the appearance that ACS compliance was being achieved, rather than engaging in a meaningful analysis of ACS compliance at the project scale. By refocusing their criteria, plaintiffs argue, the action agencies masked or ignored evidence that the

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[8]See note 5, supra.

proposed timber sales would not "maintain or restore" habitat conditions, as mandated by the ACS.

Plaintiffs advance a number of arguments: First, that NMFS backed away from ensuring ACS consistency at the project level and instead directed that ACS consistency and jeopardy be determined at the 5th field[9] watershed, which can span 20-200 square miles. Second, that few if any timber sales will produce measurable impacts on such a large scale. Third, that by determining ACS consistency on a 10-20 year frame, the agencies ignored the sales' near-term impacts on fish survival and recovery. Fourth, that the agencies ignored conditions on non-federal lands in assessing the cumulative watershed effects of additional logging. Fifth, that the agencies ignored watershed analysis and riparian reserve violations.[10]

In PCFFA I, the court held that NMFS could properly assume in the Programmatic Biological Opinion that the action agencies' implementation of the ten LRMPs and RMPs at issue in a manner

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[9]Aquatic ecosystems are described as fields. The size of watershed determines its category. Fifth field ranges from 20-200 square miles and are referred to as watersheds. Sixth field ranges from 2-50 square miles and are referred to as subwatersheds. Reeves Decl. at 3, ¶ 5, n. 1.

[10]Plaintiffs also make several arguments that appear to overlap with issues already raised and ruled on in PCFFA I. To the extent plaintiffs seek to challenge elements of the Programmatic Biological Opinion that the court upheld, such as NMFS's reliance on FEMAT's habitat-based analysis, the court will not address those arguments.

consistent with the ACS would not likely jeopardize the continued existence of the Umpqua cutthroat trout. PCFFA I at 24. At issue here is whether NMFS adequately evaluated the action agencies' compliance with the ACS in reaching its "no jeopardy" conclusion.

a. Project scale degradation and short term impacts

i. scale of ACS measurement

It is undisputed that the proposed timber sales before the court will result in some site-specific degradation: NMFS's four biological opinions issued in November and December 1998 document degrading effects at the subwatershed scale on sediment, flows, substrate, disturbance history, pool quality, large woody debris, and riparian reserves. In evaluating the actions for ACS compliance, NMFS concluded that only actions that would adversely affect the environmental baseline over an entire watershed over a long period would be inconsistent with ACS objectives. AR 1s at 10-13; see also AR 1 at 11-13; AR 2s at 12-16; AR 3s at 14-21. Under this analysis, which looks at the long term net effect of all management actions at the watershed scale, NMFS concluded that although the proposed timber sales would cause degradation at the site level, they were not inconsistent with the ACS because the effects were short term and localized.

Plaintiffs challenge NMFS's long term/watershed scale approach. At the outset, they argue, NMFS's approach is entirely

new and they suggest it was designed in response to the court's earlier summary judgment order. Substantively, they contend that focusing on so large a landscape masks each sales' impacts. They also argue that by focusing on the watershed level, NMFS has ensured that no project will ever result in a jeopardy finding because few if any projects will create sufficient degradation at the watershed level to be deemed inconsistent with the ACS. They argue that ACS consistency and implementation must be determined and measured at the site-specific or project level.

NMFS argues that determining ACS compliance on the watershed scale is proper. It argues that ACS compliance was never intended to be measured at the project scale. Rather, it is intended to measure cumulative degradation across the watershed. Under NMFS's approach, there would be no ACS violation until the culminated degradation caused by individual projects is measurable at the watershed level. NMFS argues that plaintiffs' project level approach wrongly equates evidence of project level degradation recorded in the matrixes and checklists with ACS noncompliance. This approach, it contends, has no support in the Northwest Forest Plan, the ACS, the Programmatic Biological Opinion, the scientific evidence or elsewhere. NMFS also challenges plaintiffs' assertion that it has employed an entirely new approach following PCFFA I.[11]

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[11]NMFS does not, however, cite to documentation in the PCFFA I record that it employed a long term/watershed approach before the

NMFS maintains that it is clear that the watershed scale is the appropriate scale for making consistency findings. In support of this interpretation it cites to the Northwest Forest Plan which states:

> The Aquatic Conservation Strategy was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands . . . . The approach seeks to prevent further degradations and restore habitat over broad landscapes as opposed to individual projects or small watersheds.

AR 16, p. B-9. NMFS argues that the focus on the "ecological health of watersheds" and prevention of further degradations "over broad landscapes" demonstrates that the proper emphasis in ACS compliance is the watershed scale. This argument is misplaced. NMFS is correct that the ACS seeks to prevent degradation at the landscape level. The section of the Northwest Forest Plan quoted above, however, merely states that it is no longer appropriate to evaluate ecosystem degradation and restoration on a project by project basis. Rather, it reflects a new approach adopted in the Northwest Forest Plan, which requires the government defendants to consider the health of aquatic habitats over entire watersheds. NMFS' reliance on this mandate, thus, begs the question of what level it is supposed to measure or verify ACS compliance to adequately protect the watershed.

The FEMAT report, which the court, at least implicitly, held

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court issued that opinion.

in PCFFA I represents the best scientific information, is the scientific underpinning of the ACS. AR 15a. In its report, FEMAT stressed (and indeed this court held in its prior decision) that the ACS strategy must be implemented at all four spatial scales: regional, province (river basin), watershed, and site (or project). The Programmatic Biological Opinion, in reliance on FEMAT, also requires ACS compliance at these four spatial scales. Thus, not only must the ACS objectives be met at the watershed scale (as NMFS argues), each *project* must also be consistent with ACS objectives, i.e. it must maintain the existing condition or move it within the range of natural variability.[12]

Notwithstanding the fact that ACS compliance is required at all four spatial scales, NMFS is correct that the Programmatic Biological Opinion does anticipate some harmful activities under the Northwest Forest Plan. BO at 26. NMFS is also correct that evidence in the checklists and matrixes that a project will result in some degradation does not, standing alone, constitute ACS noncompliance. NMFS, however, provides no basis for its shift to a broad watershed scale of analysis and away from the multi-scale approach contained in the Programmatic Biological Opinion.

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[12]The "range of variability" at the watershed or subwatershed scale is the distribution of conditions of smaller subwatersheds that support acceptable populations of anadromous salmonids and other aquatic and riparian dependent organisms. Reeves Decl. at 8, ¶ 15.

ii. short term effects

On reconsultation, the action agencies considered degradation over the long term (at least a decade). See, e.g. AR 1s at 10. Each biological opinion concludes that recorded degradation is inconsequential across the 5th field watershed over the long term. NMFS argues that a long term approach is fully consistent with the Programmatic Biological Opinion and should be upheld. It also argues (somewhat inconsistently) that it evaluates short term effects as well and the potential for these effects to cause jeopardy in the short term.

The Programmatic Biological Opinion mandates that "management actions that do not maintain the existing condition or lead to improved conditions in the long term would not 'meet' the intent of the Aquatic Conservation Strategy and, thus, should not be implemented." AR 14 at 39. The Programmatic Plan Biological Opinion also recognizes that individual projects can be consistent with the ACS "[n]otwithstanding the potential for minor, short term adverse effects." AR 14 at 39.

NMFS's stated reason for choosing a ten year time frame to assess ACS compliance is that ten years "is the minimum period stated when recovery would be seen . . . ." AR 58 at 2; AR 59 at 2. The plaintiffs complain that this ten year assessment is faulty because it relies too heavily on passive restoration (i.e.

tree regrowth) and assumes that if more portions of the watershed cross the ten year regrowth threshold than are being cut, the logging will not have long term impacts. Plaintiffs argue that NMFS ignored short term impacts even where the watershed analysis stressed the need to avoid short term degradation. And, they argue, by looking so far ahead to determine when clearcut forests will be fully recovered, the agencies are essentially assuming away the sales' adverse hydrologic effects.

The court agrees with plaintiffs that NMFS has failed to adequately assess the short term impacts of the timber sales and that it has failed to adequately explain its assumption that passive restoration will adequately mitigate the adverse impacts of logging. The problem with NMFS's approach, as plaintiffs point out, is that NMFS is analyzing the sales' effects based on predicted conditions ten years after the sale. Because more trees are predicted to grow back over ten years than are being cut in the sale, every sale under consultation could ultimately result in a "no jeopardy" analysis. The court further finds that in order to fully ensure the action agencies' compliance with the ACS, NMFS would have to assess the conditions immediately after the sale instead of relying on tree regrowth as passive mitigation to compensate for the logging. The court concludes that its failure to do so was arbitrary and capricious.

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b. Private land conditions

In the Roseburg BLM district, where most of the proposed sale sites are located, there is a checkerboard pattern of federal and non-federal land ownership. Plaintiffs contend NMFS ignored the conditions on non-federal lands in making its "no jeopardy" determination.

It is undisputed that conditions on non-federal lands in the range of the Umpqua cutthroat trout have contributed significantly to the degradation of the specie's habitat:

> Within the range of the UR cutthroat trout (the Umpqua River Basin), approximately 47% of the land is Federally managed. The remaining 53% is made up of private, county, and State land consisting primarily of agricultural and forest land. Historically, agriculture, livestock grazing, forestry and other activities on non-Federal land in the Umpqua River Basin have contributed substantially to temperature and sediment problems in the Umpqua River Basin. Conditions on and activities within the non-Federal riparian areas along stream reaches downstream of the USFS and BLM land presently exert a greater influence on river temperatures and probably contribute more sediment to the habitat of UR cutthroat trout and other Pacific salmonids in the Umpqua River Basin than USFS and BLM land.

Programmatic Biological Opinion, AR 14 at 41. In PCFFA I, plaintiffs challenged the Programmatic Biological Opinion on the ground that it did not take into account activity on non-federal land. The court rejected this argument, finding it "clear from the record that NMFS did consider the effects of the activities on non-federal lands in reaching its "no jeopardy" conclusion." PCFFA I at 22. The court declines to address this issue further

since it was resolved in the earlier litigation.

c. Watershed analysis violations

Under the Northwest Forest Plan, USFS and BLM are directed to use the results of watershed analysis to determine whether each project is consistent with the ACS objectives. The finding must include a description of the existing condition, a description of the range of natural variability of the important physical and biological components of a given watershed, and how the proposed project or management action maintains the existing condition or moves it within the range of natural variability. Plaintiffs contend that although the agencies drew some information from the watershed analysis in the site-specific consultations, they did not incorporate the watershed analysis recommendations or desired future conditions in the ACS consistency determination. NMFS contends that the site-specific biological opinions before the court adhere to the findings and recommendations in the watershed analysis relevant to the particular project.

As examples of the action agencies' failure to adhere to the watershed analysis, plaintiffs point to the Little River Watershed Analysis, which identifies the Upper Little River as a high priority for restoration and protection. AR 17 at Recs-14, 16-17. The Little River Demo sale,[13] they argue, collides with these recom-

[13]This is the sale the court preliminarily enjoined on March 25, 1999.

mendations by allowing logging in riparian reserves in the Willow Flats area and Upper Little River drainage. They contend, and NMFS does not persuasively dispute, that the biological opinion does not mention the watershed analysis recommendations or provide any rationale for concluding that the sale is consistent with ACS objectives. NMFS argues instead that to the extent there is a conflict between recommendations, the DEMO project is permissible because it "clearly falls within the research exception to harvest in riparian reserves because no significant risk to watershed values or to ACS objectives exists."[14] The court, however, rejected the argument that the sale clearly fell within the research exception in ruling on plaintiffs' preliminary injunction motion.

In response to plaintiffs' criticisms of other projects' failure to adhere to the relevant watershed analysis or recommendations (e.g. the E-mile timber sale's failure to mention slope stability and the Upper South Myrtle Harvest Plan's failure to adhere to watershed analysis), NMFS offers the somewhat conclusory (and circular) response that there is no evidence that any of the projects criticized by plaintiffs will jeopardize the continued existence of the listed species.

The court finds that in the challenged biological opinions, NMFS failed to use watershed analysis to determine whether the

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[14]Defendant's memorandum in support of summary judgment at 25.

watersheds at issue are within the acceptable range of variability. There is no discussion of the watershed analyses' descriptions of desired future conditions or incorporation of the watershed analyses recommendations to attain those conditions. For these reasons, the court finds that NMFS has not fully or sufficiently incorporated watershed recommendations into its ACS analysis.

d. Riparian reserve violations

The ACS standards prohibit logging in riparian reserves with narrow exceptions for salvage logging and thinning where needed to accelerate the development of mature forests in riparian areas or to otherwise attain the ACS objectives. Plaintiffs contend that in the second round of timber sale consultations, NMFS has not insisted on strict compliance with the Northwest Forest Plan's riparian reserve standards, despite its heavy reliance on inviolate reserves to mitigate the sales' degrading effects. The Little River Demo sale, for example, would log designated riparian reserves. The applicable biological opinion, however, states that the sale falls within a research exception. The court rejected this research exception rationale when it granted plaintiffs' motion for a preliminary injunction.

Similarly, Sugar Pine Density Management will log a 35-40 foot radius around designated sugar pines in a Tier 1 Key Watershed, and in riparian reserves. NMFS acknowledged in the biologi-

cal opinion that it was unclear whether this logging would promote attainment of any ACS objectives or meet an exception for timbering in a riparian reserve. AR 3s 12. NMFS found that the Sugar Pine action was justified in order to increase the survival of individual sugar pines. In the Red Top Salvage II action BLM proposes to salvage approximately 132 acres of blown-down timber. Twenty-three of those acres are in a riparian reserve. NMFS found the action justified to reduce the potential for insect infestation and to reduce fuel loads and the associated risk of catastrophic fire. NMFS has also approved several sales that will log in riparian reserves as part of commercial thins or salvage logging, including three sales in Key Watersheds. Plaintiffs contend that many of these sales have riparian buffers as small as 20 feet.[15]

NMFS acknowledges that logging in riparian reserves violates the ACS standards unless it will accelerate the development of mature forests or otherwise attain the ACS objectives. AR 3s at 2. In nearly identical language for each sale in a riparian reserve, the biological opinions state that the thinning will have beneficial effects on the rate of tree growth and riparian reserve recovery, even though there is evidence in the record to the

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[15]NMFS contends that plaintiffs do not offer a citation to the record to support this figure. This is incorrect. In the site-specific biological opinions some sales have proposed "no-cut buffers" of as little as 20 feet. See AR 1s at 3.

contrary. See AR 1s at 9; AR 3s at 12-14.[16]

Logging in riparian reserves is prohibited for salvage sales unless "watershed analysis determines that present and future coarse woody debris needs are met and other ACS objectives are not adversely affected." Northwest Forest Plan Standard TM-1. The problem with NMFS's explanation for allowing violations of ACS riparian reserve standards is that it has no real relation to the sales' aquatic impacts. It is approving projects that serve some non-aquatic function (i.e. reduction of insect infestation) in violation of ACS riparian standards although there is nothing in the record that demonstrates that those projects have an aquatic benefit. The court finds that, at a minimum, NMFS must require some relation between the benefits used to justify projects in riparian reserves and an aquatic function. By permitting violations of ACS riparian reserve standards where there is no evidence of a rational connection between the proposed action and the attainment of ACS objectives, NMFS acted arbitrarily and capriciously.

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[16]The Red Top II biological opinion, for example, notes that the watershed analysis found that large woody debris is not well-distributed or abundant in this area, that the subwatersheds where the logging will occur are not properly functioning for large woody debris, and that the sale violates the riparian reserve logging standard. AR 3s at 11.

4. Conclusion re: ACS compliance

The court finds that NMFS is required by the Northwest Forest Plan and the Programmatic Biological Opinion to ensure ACS compliance at all four spatial scales. Its decision to measure ACS compliance only at the watershed level and its failure to evaluate ACS compliance at the project or site level, therefore, was arbitrary and capricious. The court further concludes that NMFS could not rationally conclude, based on the evidence before it, that evaluating only long term impacts of agency activities satisfied its mandate to ensure ACS compliance. Its failure, therefore, to evaluate the short term impacts, (i.e. impacts that would manifest in less than a ten year period) was also arbitrary and capricious. Finally, the court finds that NMFS has not fully incorporated watershed recommendations into its ACS analysis. Its failure to do so was arbitrary and capricious in light of the fact that the watershed analysis undoubtedly represents the best available scientific information available.

By employing a long term/watershed approach in making jeopardy determinations, NMFS has virtually guaranteed that no timber sale will ever be found to jeopardize the continued existence of the Oregon coastal coho or Umpqua River cutthroat trout. By failing to require the action agencies to rely on and adequately incorporate watershed analysis into their biological opinions, NMFS has allowed the agencies to ignore the best scientific infor-

mation available. In light of the overwhelming evidence of the ongoing degradation to the habitat of the endangered aquatic species in the Umqua River Basin, the court finds that NMFS's approach is not rationally calculated to achieve the goals of the ACS. The court, therefore, finds that NMFS acted arbitrarily and capriciously in approving biological opinions that run counter to the evidence before it[17] and that fail to employ the best available scientific information as required by 16 U.S.C. § 1536(a)(2).[18]

III. CONCLUSION

The court GRANTS plaintiffs' motion for summary judgment [docket 60-1]; DENIES defendants' motions for summary judgment and dismissal [docket 77-1, 81-1]; GRANTS the parties' cross-motions to strike [docket 88-1, 97-1]; and DISMISSES this action.

DATED at Seattle, Washington this 29th day of September, 1999.

Barbara J. Rothstein

BARBARA JACOBS ROTHSTEIN
UNITED STATES DISTRICT JUDGE

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[17] See Bennett v. Spear, 520 U.S. 154.

[18] See Greenpeace Action v. Franklin, 14 F.3d 1324.

APPENDIX B

EFFECTS FINDINGS CONSISTENCY ASSESSMENT

APPENDIX B

PROJECTS FINDINGS CONSISTENCY ASSESSMENT

Appendix B

Consistency Review of Forest Plan Documentation

Sensitivity of the original environmental consequences analysis of Alternative 9 of the Northwest Forest Plan to the proposed language change.

The Interdisciplinary Team (IDT) reviewed Northwest Forest Plan (NWFP) effects findings to determine whether the findings are influenced or altered by the proposed language change.

None of the effects findings explicitly rely on the language proposed for change. The NWFP effects findings do rely on the four components of the Aquatic Conservation Strategy (watershed analysis, watershed restoration, Riparian Reserves and Key Watersheds). These components are retained in the Proposed Action.

SOURCE: Final Supplemental EIS on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl, Volume I, February 1994, Chapter 3&4

Chapter 1
Purpose and Need

FSEIS, Volume 1, Chapter 1, pg. 1 - 7
There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Chapter 2
The Alternatives

FSEIS, Volume 1, Chapter 2, pg. 3 - 84
There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this

chapter.

Chapter 3&4
Affected Environment and Environmental Consequences

FSEIS, Volume 1, Chapters 3&4, pgs. 3 -10
There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Ecosystems and Species

FSEIS, Volume 1, Chapters 3&4, pg. 11 - 24
There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Terrestrial Ecosystems

FSEIS, Volume 1, Chapters 3&4, pgs. 24 – 51

The Terrestrial Ecosystems section of Chapters 3&4 focused on an analysis of the alternatives relative to their ability to provide for and maintain a functional and interconnected, late-successional forest ecosystem. Three attributes, as listed below, were used to rate each alternative in relation to four possible outcomes in each attribute.

FSEIS, Volume 1, Chapters 3&4, pgs. 35

"The rating of Late-Successional ecosystems was based on three attributes that characterize the quantity and quality of components of the ecosystems…

Abundance and ecological diversity – the acreage and variety of plant communities and environments.
Processes and functions – the ecological actions that lead to the development and maintenance of the ecosystem, and the values of the ecosystem for species and populations.
Connectivity – the extent to which the landscape patters of the ecosystem provides for biological flows that sustain animal and plant populations."

Late –Successional reserves were intended to be the primary mechanism for maintaining large blocks of late-successional habitat within the range of the

northern spotted owl. None of these three elements explicitly refers to the ACS or any component of the ACS. The third attribute, Connectivity, however depends on the Riparian Reserves to maintain connectivity on the landscape.

The conservation assumptions of the Northwest Forest Plan are dependent on Riparian Reserve allocations. Repeated throughout the analysis are frequent references to the Riparian Reserves and their conservation function. However, Riparian Reserves are initially set by the application of preliminary standards based on the height of site potential trees. Watershed analysis is intended to modify Riparian Reserves based on an "analysis of the critical hill slope, riparian, and channel processes and features" (FSEIS, Appendix B, p. B-86). The Proposed Action does not affect the watershed analysis process. The Proposed Action will not change the Riparian Reserve standards and will not affect the LSR ratings that derived from this attribute.

FSEIS, Volume 1, Chapters 3&4, pg. 43

"During the next 100 years, none of the alternatives provides for a higher than 60 percent likelihood of reaching an outcome in which the quality and quantity of the overall late-successional ecosystem ... would be at least as high as the hypothesized long-term average condition (Outcome 1). The Assessment Team concluded that a longer timeframe may be necessary for this change to occur."

FSEIS, Volume 1, Chapters 3&4, pg. 45

"[N]one of the alternatives achieved a likelihood of 80 percent or greater for Outcome 1 for any of the individual attributes .... However, Alternatives 1,3,4,5, and 9 had at least one attribute that had an 80 percent or greater cumulative likelihood of achieving Outcomes 1 and 2 combined .... "

Again, because the attributes used for rating LSR were not sensitive to the language change proposed, the general ranking of the LSRs and their likelihood of reaching a particular outcome, are not changed.
Only Attribute 3, Connectivity, seems sensitive to elements of the ACS. But as we pointed out earlier, Attribute 3 depends greatly on Riparian Reserve allocations, which will not change under the Proposed Action.

FSEIS, Volume 1, Chapters 3&4, pg. 45

"The results indicate that none of the alternatives had a 60 percent or greater

likelihood of producing a late-successional and old-growth ecosystem with attributes that approximate at least long-term average conditions (Outcome 1) over a timeframe of 100 years. This occurs primarily because 100 years is not long enough for cutover landscapes to return to late-successional conditions that approximate prelogging conditions. Many late-successional attributes require 200 to 500 years to develop. In addition, many larger scale disturbance processes, such as severe wildfires, will probably not occur under any of the alternatives, at least not to the extent that they would in an environment that was not influenced by humans."

The NWFP assumed that the proportion of late-successional habitat on the landscape would increase at different rates depending on the alternative chosen. They typically used a common, 100-year timeframe to evaluate the different alternatives. Because the three attributes used to evaluate late-successional habitat on the landscape are not sensitive to the language changes proposed, the effects of the Proposed Action will be within the scope of the original effects analysis.

FSEIS, Volume 1, Chapters 3&4, pg. 45

"Some alternatives have an 80 percent or greater cumulative likelihood of achieving an overall ecosystem condition at 100 years that is hypothesized to fall within the typical range of conditions that have occurred over previous centuries (Outcomes I and 2 combined). This does not mean, however, that all attributes and stands would meet this condition. Many young forest plantations within reserves are not developing along typical pathways, and fire suppression has and will alter stand and landscape-level processes that are typical in these ecosystems. In general, high rates of logging, forest plantations, fire suppression, ownership patterns, and human population and environmental influences have altered the regional ecosystem on federal lands to the extent that none of the alternatives can provide for a return to conditions that closely match those of previous centuries. Also, it is not expected that all ecosystem processes, such as wildfire, will be allowed to perform their natural functions across the landscape."

Late successional ecosystems were ranked according to the three attributes. And only one of those three explicitly depended on an element of the ACS – the Riparian Reserve system. Given that this proposal does not change the Riparian Reserves, it will not affect the original ranking of LSRs.

FSEIS, Volume 1, Chapters 3&4, pg. 45-46

"Some of the alternatives provide greater livelihoods than others of maintaining and enhancing the late-successional ecosystem at levels that approach typical long-term

conditions. Alternatives 1, 3, 4, and 9 received the highest ratings (Figure 3&4-3)."

The primary mechanism for providing conservation benefits is the land allocations. The Proposed Action does not alter any land allocations.

FSEIS, Volume 1, Chapters 3&4, pg. 46

"Alternative 9 achieved a 60 to 80 percent or greater likelihood rating for the overall ecosystem for Outcomes I and 2 combined in moist and dry provinces (Table 3&4-9). Alternative 9 might have achieved a higher overall rating if it provided for more acreage of late-successional ecosystems in the low elevations in Oregon. The Assessment Team stated that the opportunities to enhance knowledge about ecosystem function and management in the Adaptive Management Areas of Alternative 9 actually increased the likelihood that this alternative would provide late-successional characteristics in the future."

The three attributes of the rating system, as detailed on pages 3&4 – 34-39 of the FSEIS, are not sensitive to the language changes proposed in this SEIS. The Adaptive Management Areas (AMAs) were established independent of the ACS and ACS Objectives and would not be affected by the proposed language change. The AMA standards are not sensitive to differences in the application of the ACS Objectives at the site-specific scale.

Aquatic Ecosystems

FSEIS, Volume 1, Chapters 3&4, pg. 65

"The likelihood of achieving an outcome of sufficient quality, distribution and abundance of habitat to allow fish populations to stabilize, well distributed across federal lands, is lower for Alternatives 2, 3, 5, 6, and 10 than for Alternatives 1, 4, and 9. Alternative 9's standards and guidelines would provide a level of habitat protection comparable to Alternative 4 because of the incorporation of Riparian Reserve Scenario 1 discussed in this chapter. However, the Assessment Team concluded that all alternatives will reverse the trend of degradation and begin recovery of aquatic ecosystems on federal lands within the range *of the northern spotted owl except for Alternatives 7 and 8. Even if changes in land management practices and comprehensive restoration programs are initiated, it is possible that no alternative will completely recover all degraded aquatic systems within the next 100 years. The ecosystem assessment shows that the likelihood of attaining a functional and interconnected late-successional and old-growth forest ecosystem in the next 100 years is reduced because some characteristics of terrestrial ecosystems will not be*

obtained for at least 200 years. Similarly, the Assessment Team expected that degraded aquatic ecosystems will not be fully functional in 100 years. Faster recovery rates are probable for aquatic ecosystems under Alternatives 1 and 4, and Alternative 9, which includes the standards and guidelines added since the Draft SEIS than under the other alternatives (Figure 3&4-6). Alternatives 1and 4 and Alternative 9 with the standards and guidelines incorporated since the Draft SEIS would reduce management-related disturbance across the landscape due to application of a larger Late-Successional Reserve network and use of the more protective Riparian Reserve Scenario 1 which requires wider Riparian Reserve widths for intermittent streams in Tier 2 Key Watersheds and non-Key Watersheds."

The ACS SEIS does not propose to modify the land allocations, Riparian Reserves or Key Watersheds. The expected outcomes are supported by the ACS SEIS and will not change as a result of this proposal.

FSEIS, Volume 1, Chapters 3&4, pg. 68

"Decision makers will use the information developed during a watershed analysis to support decisions and to determine if a proposed project meets Aquatic Conservation Strategy objectives. This is a new approach; in the past, proposed projects were considered from the context of what effects (positive and negative) a proposed project would have on the conditions and functions and processes of a watershed."

The ACS SEIS does not propose to modify the Watershed Analysis. The expected outcomes are supported by the ACS SEIS and will not change as a result of this proposal.

FSEIS, Volume 1, Chapters 3&4, pg. 69

"The 143 Tier 1 Key Watersheds were selected specifically for contributing directly to the conservation of habitat for at-risk anadromous salmonids, bull trout, and resident fish species. The 21 Tier 2 Key Watersheds are important sources of high quality water (Appendix B6, Table B6-3)."

The ACS SEIS does not propose to modify Key Watersheds. The expected outcomes to at-risk anadromous salmonids are supported by the ACS SEIS and will not change as a result of this proposal.

FSEIS, Volume 1, Chapters 3&4, pg. 80-81

"Alternatives 1 and 4 and Alternative 9 which includes the standards and guidelines incorporated since the Draft SEIS benefit aquatic and riparian habitats more than the other alternatives. These benefits are principally due to:

(1) the application of Riparian Reserve Scenario 1 to intermittent streams in Tier 2 Key Watersheds and non-Key Watersheds, (2) the highest amounts of Late-Successional Reserves within Key Watersheds and throughout the range of the northern spotted owl, and (3) the least amount of the matrix contained within inventoried roadless areas. Aquatic and riparian habitats are expected to recover faster under Alternatives 1, 4 and 9, in part, due to these factors."

The ACS SEIS does not propose to modify the land allocations, Riparian Reserves, Key Watersheds or roadless area designation. The expected outcomes are supported by the ACS SEIS and will not change as a result of this proposal.

FSEIS, Volume 1, Chapters 3&4, pg. 81

"The standards and guidelines for Alternatives 7 and 8 are not adequate to reverse the trend of aquatic and riparian habitat degradation and begin recovery of these habitats. The principal reasons are the lack of explicitly defined Riparian Reserves for Alternative 7, and the application of Riparian Reserve Scenario 3 for Alternative 8."

The ACS SEIS does not propose to modify the Riparian Reserves. The expected outcomes are supported by the ACS SEIS and will not change as a result of this proposal.

Air and Water Quality and Soil Productivity:

FSEIS, Volume 1, Chapters 3&4, pg. 107

"The effects to water quality under the alternatives vary depending on the acreages and distribution of the various land allocations and the type and location of land disturbing activities occurring under the alternative. The ***most significant factors*** *related to potential water quality effects for each alternative are the Riparian Reserve scenarios, the level and location of road building, and the amount and method of timber harvest permitted." "Alternatives 1, 4, and 9 would have the least adverse effects to water quality"* ***(Emphasis added)***

All of these alternatives (FSEIS 1, 4, 9, and ACS SEIS No Action and Proposed Action) have the same riparian reserve scenario of 2:1:1 (fish bearing, non fish bearing and intermittent). The level and location of road building is determined by Standards and Guidelines, which remain unchanged. The amount of timber harvest would not exceed that assumed in Alternative 9 under either the No Action or Proposed Action.

FSEIS, Volume 1, Chapters 3&4, pg. 107

"Based on the Riparian Reserve scenarios and other components of the Aquatic Conservation Strategy, all of the alternatives except 7 and 8 are expected to maintain or improve water quality, although watershed recovery rates would be quickest for Alternatives 1, 4, and 9."

Rates of recovery are related to the presence of Key watersheds (3&4-69) in the alternatives and the allocation of large percentages to LSR and riparian reserves (see table 3&4 – 13 page 71 also table 2-4), under these alternatives.

FSEIS, Volume 1, Chapters 3&4, pg. 107

"The level of water quality protection under Alternatives 1, 4, and 9 should also benefit water supply systems within and downstream from lands administered by the Forest Service and BLM. The Riparian Reserve scenarios and other components of the Aquatic Conservation Strategy under these three alternatives should contribute to the ability of water systems to remain unfiltered and comply with Safe Drinking Water Act requirements."

As described above, the no-action and the proposed alternative reflect the attributes of the alternative 1 and 9 categories in the FSEIS and therefore both are expected to allow water suppliers to comply with Safe Drinking Water Act requirements.

FSEIS, Volume 1, Chapters 3&4, pg. 107

*"Adverse **cumulative effects** to water quality and water supply systems would be the greatest under Alternatives 7 and 8 and the least under Alternatives 1, 4, and 9. The level of cumulative effects for Alternatives 2, 3, 5, 6 and 10 would fall somewhere between the prior two groups of alternatives. The difference in cumulative effects among alternatives is primarily a function of the alternatives' proposed level of land disturbance (e.g., roads, harvest levels) and the degree of Aquatic Conservation Strategy adoption."*(Emphasis added)

The proposed land disturbance among alternatives is related to land use allocations, with matrix LUA representing a higher level of disturbance than LSR, AMA etc. Alternative 1, 4 and 9 represent the lowest levels of matrix LUA. As described above, the No Action and the Proposed Action reflect the range of Alternatives 1 & 9 and therefore both are expected to represent the least cumulative effects.

FSEIS, Volume 1, Chapters 3&4, pg. 107

"The broad scale application of the full Aquatic Conservation Strategy within the range of the northern spotted owl will significantly reduce the potential for adverse cumulative effects to water quality. Land disturbances will be more localized and related primarily to land allocations and standards and guidelines that apply. Cumulative effects will be further addressed in subsequent analyses and for tiered plans and projects."

No Action may not allow "broad scale application of the full EIS." As discussed in the effects analysis in Chapter 3&4, some projects that have long-term desirable benefits are less likely to occur. The reduction in projects, some of which represent restoration and maintenance opportunities, may not represent a full or comprehensive implementation of the restoration component of the ACS. If deferment of projects such as culvert upgrades continues into the future, there could be adverse cumulative effects during flood periods. Both alternatives rely on the Standards and Guidelines with land disturbance assumed to be lower for the No Action alternative due to the reduction in projects overall. The need for cumulative effects analysis in NEPA and watershed analysis will not change under either alternative.

FSEIS, Volume 1, Chapters 3&4, pg. 108

"Riparian Reserves and the other components of the Aquatic Conservation Strategy would provide greater protection of water quality, fish habitat, and riparian areas than is currently required for nonfederal lands, particularly for Alternatives 1, 4, and 9."

This remains consistent under both the no action and the proposed alternative. Although there have been changes to the Forest Practices Act in Oregon, application of Riparian Reserves in the ACS is a more comprehensive set of best management practices, largely due to the reserves on intermittent streams.

FSEIS, Volume 1, Chapters 3&4, pg. 108

"The role of nonfederal landowners is significant because water quality protection on federal lands alone may not ensure attainment of water quality standards downstream."

The validity of this statement has not changed since the implementation of the NWFP. It is recognized that the success of the strategy in headwater areas with blocked federal ownership does not depend on these non-federal lands. This statement of success is less applicable in multi-ownership watersheds since water withdrawals, discharges to streams, modifications of streamside

habitat, and population densities are generally greater on nonfederal lands than on federal lands. Neither ACS-SEIS alternative is likely to have an effect to water quality in downstream reaches where private lands have a significant influence. Neither ACS-SEIS alternative will change the validity of these assumptions.

FSEIS, Volume 1, Chapters 3&4, pg. 112

"The most common types of management disturbances that affect soils and related long-term productivity include soil displacement and compaction, erosion (surface and mass wasting), and alteration of nutrient status and soil biology. Late-Successional Reserves, Riparian Reserves, and Administratively Withdrawn Areas have the highest probability of maintaining long-term soil productivity because they will have the least amount of management-induced disturbance."

Again, this is not dependent upon specific analysis approaches around the ACS objectives. The Riparian Reserves support soil protection, but no changes are proposed to the Riparian Reserve standards.

Process for Assessing Effects of Alternatives on Species habitat sufficiency on Federal Lands Within the Range of the Northern Spotted Owl

FSEIS, Volume 1, Chapters 3&4, pg. 113 - 130

FSEIS, Volume 1, Chapters 3&4, pg. 115
"More than 1000 species were identified as being associated with late-successional forests on federal lands... In addition to this list of species, 15 functional groups of arthropods, representing more than 8,000 individual species, were reviewed..."The rating process was a subjective evaluation of the sufficiency of the amount and distribution of late-successional and old-growth habitat on federal lands under each option to support the species or group of species over the next 100 years. ..."(FEMAT Report, p. II-29)"

The original SAT, FEMAT, and FSEIS analyses reviewed thousands of organisms for their link to old-growth forests. They evaluated the relative likelihood of four viability outcomes under the different alternatives. These assessments focused on the link of each of the organisms to old-growth forests and did not directly tie into analytic approaches to the ACS. As we have pointed out previously, Riparian Reserves partially defined the

conservation commitment under each of the alternatives to each of the species or groups of species considered.

FSEIS, Volume 1, Chapters 3&4, pg. 129

"The following possible mitigation measures were developed during the species analysis process ...Those mitigation measures incorporated into Alternative 9 as standards and guidelines are in bold typeface...
Riparian Reserves
Apply Riparian Reserve Scenario I
...
Throughout the range of the northern spotted owl.
Ensure riparian protection in Adaptive Management Areas"

The FSEIS also considered effects on additional species and laid out a methodology for additional species analysis. Possible mitigation measures were proposed for these species for Alternative 9 that applied Riparian Reserve scenario 1 throughout the range of the northern spotted owl. The incorporation of Riparian Reserve Scenario 1 set standards and guidelines for the determination and management of riparian reserves, but did not depend on site-specific application of the ACS objectives. Again, it was the land allocation that formed the basis of this assumption and conservation measure.

Species Not Threatened or Endangered

FSEIS, Volume 1, Chapters 3&4, pg. 130 - 205

FSEIS, Volume 1, Chapters 3&4, pg. 133 - 190

"Outcome ratings for lichens were generally correlated with the acreage of Late-Successional Reserves, stand treatments within the matrix, and protection for riparian corridors (aquatic and riparian lichens)." p. 147

This passage is typical of many of the references to ACS components in the species analysis section of the FSEIS. These sections cover analyses of nonvascular plants and allies, fungi, lichens, vascular plants, invertebrates (including mollusks), amphibians, reptiles, birds, and mammals (including bats). Repeated throughout this section are references to species that may be wholly or partially dependent on riparian areas. The effects or outcomes analyses for these species depend in part on the Riparian Reserve land allocation, which is not changed by the Proposed Action.

FSEIS, Volume 1, Chapters 3&4, pg. 202

"Two key points are important when considering the effects of any federal land management under each alternative on anadromous fish. First, there may be other factors such as overharvest, disease, and hatchery practices and other habitat impacts not related to timber harvest such as hydropower and irrigation developments that have caused and will continue to affect the declines of anadromous salmonid populations. Second, a plan for managing federal lands will not necessarily correct problems on nonfederal land, and anadromous fish are, in many cases, adversely affected by nonfederal actions."

"The success of the strategy does not depend on actions on nonfederal lands. Many of the federal watersheds occur upstream of nonfederal watersheds. Thus, the strategy can succeed at maintaining and restoring the aquatic and riparian habitats regardless of what happens on nonfederal lands but that would not ensure population viability of many of the fish stocks evaluated in this SEIS."

The projection of ACS success in terms of cumulative effects to downstream habitat is still dependant on non-federal management. The Proposed Action does not change these assumptions or invalidate these statements.

Threatened, Endangered and Proposed Species

FSEIS, Volume 1, Chapters 3&4, pg. 205 – 258

There are repeated references to the Riparian Reserves in this section. The Proposed Action does not change the Riparian Reserves.

Three Court-Identified Defects to the Forest Service 1992 FEIS

FSEIS, Volume 1, Chapters 3&4, pg. 258 – 260

Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Other Environmental Consequences

FSEIS, Volume 1, Chapters 3&4, pg. 319

There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Conflicts with Other Plans

FSEIS, Volume 1, Chapters 3&4, pg. 319 – 321

There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

Irreversible or Irretrievable Commitments

FSEIS, Volume 1, Chapters 3&4, pg. 321

There are no assumptions within this section that depend on or are sensitive to the Proposed Action. Implementation of the Proposed Action would not modify or change any of the analytic assumptions or conclusions of this chapter.

SOURCE: Final Supplemental EIS on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl, Volume II, Appendix F, February 1994

Ecosystem Management

FSEIS Volume II, Appendix F. pg. F-16 to F-9

FSEIS Volume II, Appendix F. pg. F-7

"The design of the network of reserves was based on the distribution of existing late successional and old growth forests. The needs of 259 at-risk fish stocks; and the needs of the aquatic and terrestrial ecosystem. Physical attributes of the ecosystem are important to the habitat needs of individual species, and the large number of species across the planning area have a variety of needs. These physical factors were used to assist in the delineation of physiographic provinces and will be integrated into landscape/watershed-level analysis as appropriate. "

The 259 at-risk species analyzed in the FSEIS include species that are currently listed as threatened. The proposed language change in the ACS

SEIS does not affect this outcome.

FSEIS Volume II, Appendix F. pg. F-7

"Within a broad framework, the SEIS standards and guidelines allow for a variety of management options at different scales: across the planning area, among moist and dry provinces, and within land allocations including adaptive Management Areas. Result of watershed analysis will be used in the future planning efforts. The size of the reserve network was designed to meet the needs of the late-successional forest ecosystem, including the large number of species that are dependent on that ecosystem. Ecosystem management is a component of all the land allocations in the SEIS. "

The Fish Effects Analysis in the 1994 FSEIS depends on the relationship between old-growth dependent species (at-risk fish species) and their ecosystem management approach. The Proposed Action does not alter this finding.

FSEIS Volume II, Appendix F. pg. F-7

"The viability provisions of the National Forest Management Act fish and wildlife resources regulation speak in terms of managing habitat to support each vertebrate species on the planning area. Thus, to the extent practical, the SEIS addresses individual species' habitat conditions under each of the alternatives. The ecosystem assessment addresses these concerns through three attributes: 1) abundance and ecological diversity, 2) possesses and functions and, 3) connectivity. The interrelationships among species re highly complex and cannot be analyzed at the scale of this interrelationships among species are highly complex and cannot be analyzed at the scale of this programmatic SEIS even if they were all identified and fully understood. Each of the alternatives is designed to protect the biological diversity of a function and interconnected, late successional forest ecosystem. The additional standards and guidelines that have been incorporated in Alternative 9 in Appendix B11 further strengthen the likelihood of maintaining a function a an interconnected, late successional forest ecosystem."

The ACS SEIS viability analysis depends on the same assumptions made in the SEIS. The Proposed Action will not change the viability outcome established in the NWFP.

FSEIS Volume II, Appendix F. pg. F-8

"The maintenance of a functional and interconnected late-successional forest ecosystem is one of the goals of this SEIS. The ecosystem is complex: its health is dependent on the health of individual species and the quantity and quality of habitat

conditions. Similarly, the health of individual species is dependent on the health of the ecosystem. The biophysical components of the ecosystem will be described in greater detail in future watershed/landscape-level analysis, as well as in province-level planning."

The NWFP depends on the relationship between the health of the ecosystem and individual species. This is consistent with the Proposed Action.

Management of Late-Successional Reserves

FSEIS Volume II, Appendix F. pg. F-10 to pg. F-11

FSEIS Volume II, Appendix F. pg. F-10

"…. Thinning in unnatural, managed stands can accelerate the development of certain late-successional forest characteristics. The Final Draft Spotted Owl Recovery Plan (USDI unpub.) states that the risks of inaction outweigh the risks associated with these restoration activities. Plans for limited thinning must be beneficial to the development and maintenance of the late-successional forest ecosystem, and are subject to review by the Regional Ecosystems Office. Standards and guidelines in this Final SEIS provide for the retention of coarse woody debris in the reserves, as well as in all other land allocations. These standards and guidelines reflect the habitat needs of species other than the spotted owl, as well as those necessary for the maintenance of a late-successional forest ecosystem."

Restoration is an important component of implementing the FSEIS. Silvicultural treatments will serve to provide coarse woody debris for at-risk species. This finding is consistent with ACS SEIS effects analysis. The Proposed Action does not alter this finding.

FSEIS Volume II, Appendix F. pg. F-10

"The ratings for Outcomes 1 and 2 combined are due in part to an incomplete knowledge of ecological processes and functions. Disturbance ecology and long-term climate change are among those uncertainties described in the FEMAT Report and in Chapter 3&4, Results of Assessing the Maintenance of a Functional and Interconnected, Late-Successional Forest Ecosystem. The degree to which wildfire may be allowed to function as a natural process is not known, nor is it known if land managers have the ability to bring fuel accumulations in the dry provinces back to their natural levels before large scale wildfire events occur. Note that Alternatives 3 and 9 (as originally formulated) are rated the highest for the processes and functions attribute; Alternative 9 rates slightly higher than Alternative 3. The additional standards and guidelines added in Appendix B11, Standards and Guidelines Resulting From Additional Species Analysis and Changes to Alternative 9, improve

the ecosystem attributes of (1) abundance and ecological diversity, and (2) connectivity of Alternative 9 to a higher level than stated in the FEMAT Report and the Draft SEIS."

This ACS SEIS considers the role of natural disturbance and climate change (fire, flood). This statement holds true and is consistent with the proposed action. The ACS SEIS and will not change as a result of the proposal.

Ecosystem Assessment

FSEIS Volume II, Appendix F. pg. F-12 to F-13

FSEIS Volume II, Appendix F. pg. F-12

"Alternative 9 received its overall rating partly because of its restorative silvicultural treatments in the Late-Successional Reserves. Without these practices, the assessment of Alternative 9 would have yielded a lower result."

The ACS SEIS considers the role of restoration and recognizes that restoration is an important component of achieving the goals established in the NWFP. This is consistent with the proposed action in the ACS SEIS and will not change as a result of the proposal.

AQUATIC WILDLIFE AND HABITAT

FSEIS Volume II, Appendix F. pg. F-162 – 175

Watershed Restoration

FSEIS Volume II, Appendix F. pg. F-170 to F-171

FSEIS Volume II, Appendix F. pg. F-170

"The analysis contained in this SEIS assumes implementation of a watershed restoration program. Application of watershed restoration will be similar to that described in Appendix V-J of the FEMAT Report. The major difference is that there will not be a new team formed to specifically address watershed restoration projects. Key Watersheds serve as focal points for watershed analyses and development of the initial watershed restoration efforts. Implementation of restoration projects is expected to occur following preparation of project-specific NEPA documents, and will depend on funding."

The ACS SEIS includes the same assumptions for the watershed restoration in the Proposed Action.

FSEIS Volume II, Appendix F. pg. F-171

"Watershed restoration was one of the factors considered, but it did not influence the results as much as other factors (such as ***Riparian Reserve scenario****) included in a given alternative. The Assessment Team assumed that all alternatives except Alternative 7 contained equivalent watershed restoration programs; thus, watershed restoration was not a factor resulting in strong differences between these alternatives."*

This statement indicates the riparian reserve scenario of 2:1:1 in both the no action and proposed action is one of the dominant factor in the FSEIS effects analysis. Both the ACS_SEIS no action and the proposed action include active and passive restoration. Although the level of active restoration is assumed to be lower under the no-action alternative, this level of reduction would not likely cause effects outside those reflected in the FSEIS, as this was not a factor resulting in strong differences between these alternatives.

Effects Analysis

FSEIS Volume II, Appendix F. pg. F-172 to 173

FSEIS Volume II, Appendix F. pg. F-172

"The outcomes for the assessment for aquatic species in Chapter 3&4 depict differences between Alternative 7, which does not contain a comprehensive watershed restoration program, and the rest of the alternatives that do contain a comprehensive watershed restoration program. Differences in outcomes, however, are not directly related to inclusion of a watershed restoration program because of variations in land allocations between alternatives."

This statement indicates that the variation in Land Use Allocations among alternatives was one of the dominant factors in the FSEIS effects analysis. Both the no action and the proposed action include the same Land Use Allocations. The potential reduction in active restoration projects under the no action alternative would not be expected to result in strong differences in effects between these alternatives and those disclosed under the FSEIS.

WATERSHED, WATER QUALITY AND SOILS

FSEIS Volume II, Appendix F. pg. F-175 - 183

Water Quality

FSEIS Volume II, Appendix F. pg. F-177 to 179

FSEIS Volume II, Appendix F. pg. F-179

"The standards and guidelines for all alternatives except Alternative 7 provide greater water quality protection than existing practices. Where current standards and guidelines in existing Forest and District Plans (including BMPs) provide greater protection than those of the selected alternative, the current standards and guidelines will continue to apply. In addition, reduced sediment production and attendant improvement in water quality should result from the Key Watershed network and the Late-Successional Reserve and Riparian Reserve systems established by this SEIS."

Establishes that the Standards and Guides are not the only best management practices designed or implemented to meet state water quality standards and thus provide for aquatic health. Where BMPs contained in the RMPs and Forest Plans are more stringent they are to be used. The Proposed and No Action alternatives do not change the Key Watershed network, LSRs and the Riparian Reserve system; therefore expected improvement in water quality would not change.

AQUATIC WILDLIFE AND HABITAT

FSEIS Volume II, Appendix F. pg. F-162 to F-183

Aquatic Conservation Strategy

FSEIS Volume II, Appendix F. pg. F-162 to F-165

FSEIS Volume II, Appendix F. pg. F-163

"The Aquatic Conservation Strategy is more than a system of Key Watersheds. In addition to the Key Watersheds, the strategy's key components include Riparian Reserves and their standards and guidelines, the watershed analysis process, and watershed restoration programs. These other components provide the mechanisms to protect and restore riparian and aquatic habitat in areas within and outside Key Watersheds by creating a connected network of aquatic and riparian habitats"

The Proposed Action does nothing to change any of the four components of the ACS.

FSEIS Volume II, Appendix F. pg. F-164

"All anadromous fish require freshwater habitat to complete their life cycles. Rather than focus on a limiting-factors analysis, the Aquatic Conservation Strategy in this

SEIS emphasizes maintaining and restoring complex aquatic habitats for fish and other riparian-dependent species. A number of factors affect the survival and production of anadromous fish within the range of the northern spotted owl. Whether freshwater habitat is the limiting factor for the production of anadromous fish is less important than ensuring that high quality habitat is available to the fish during the freshwater phase of their life histories."

"The Aquatic Conservation Strategy is a regional approach to maintaining and restoring watersheds and their aquatic and riparian habitats. The strategy considers all existing and potential fish habitat and does not rely on known distributions of fish for the analysis. Fish distribution was used, however, to develop the Key Watershed network. Subsequent management actions could consider distribution of fish if deemed appropriate for the level of analysis. The watershed analysis process allows agencies to develop management objectives or restoration actions for specific streams; various reaches within a given stream; and fish groups, races, and species. The process also updates information on fish distribution."

The Aquatic Conservation Strategy adequately addresses concerns for salmonids and a diversity of other riparian-dependent species such as sculpin and amphibians. The Proposed Action does not change the ACS

Aquatic Species

FSEIS Volume II, Appendix F. pg. F-167 to F-170

FSEIS Volume II, Appendix F. pg. F-167

"One function of Riparian Reserves is to protect habitat used by riparian-dependent species, including salmonids. Riparian Reserves are designed to be large enough to protect the ecological values required by riparian-dependent plant and animal species. Objectives 1, 2, 8, and 9 of the Aquatic Conservation Strategy (Appendix B6, Aquatic Conservation Strategy) specifically address maintaining the diversity of habitat conditions necessary to support the diversity of plants, invertebrates, and vertebrates that depend on healthy riparian systems. The standards and guidelines for Riparian Reserves in Appendix B6 are designed to prohibit activities within the Riparian Reserves that retard or prevent attainment of the Aquatic Conservation Strategy objectives. Riparian-dependent species other than fish can be protected during project implementation by adjusting Riparian Reserve boundaries based on the results of watershed analysis."

The Proposed Action will not change these outcomes.

The Aquatic Conservation Strategy adequately addresses concerns for

salmonids and a diversity of other riparian-dependent species such as sculpin and amphibians. The Proposed Action does not change the ACS.

FSEIS Volume II, Appendix F. pg. F-167

"The analysis in this SEIS on the effects of the alternatives on aquatic habitat and fish was based on the seven races/species/groups of fish that use a wide range of conditions from larger river systems to headwater streams. All require clean gravel and cool, oxygenated water to reproduce, and require diverse and complex habitats. This analysis implies that providing the array of natural functions and processes in riparian and aquatic systems to benefit the seven races/species/groups would also benefit fish species for which there is little life history information. The assessments for riparian-dependent amphibians parallel the results of the assessment outcomes developed for the seven races/species/groups of fish. This supports the assumption that the habitat conditions used by the seven races/species/groups would benefit other species. A monitoring program may be developed to provide information in cases where management decisions could affect fish species about which there is little information and there is a high level of uncertainty on effects of implementing the action. This scenario fits within the adaptive management process proposed in this SEIS. To determine the effects of actions, monitoring will take into account the life history and ecology of fish that may be affected. If that information is lacking, then collecting that information could be part of the monitoring program.

The analysis did not consider individual stocks of fish. Rather, the analysis considered seven races/species/groups of fish for a number of reasons outlined in Chapter 3&4 of this SEIS. The habitat requirements of the seven races/species/groups of fish evaluated generally represented those required by the stocks at risk. Pink, chum, and sockeye salmon were not included in the assessment primarily because of their limited distribution on federal land within the range of the northern spotted owl

While the range of pink and chum salmon includes Oregon and Washington, most of these fish occur in Washington. Pink and chum salmon tend to spawn in tidally influenced portions of rivers or a short distance upstream. Some Key Watersheds encompass pink and chum salmon habitat. However, there is little federal land that overlaps tidally influenced portions of rivers and streams within the range of pink and chum salmon. Even though there are few Key Watersheds encompassing pink and chum salmon habitat, all existing and potential pink and chum salmon habitat on federal lands is encompassed by Riparian Reserves and will be adequately protected. The Aquatic Conservation Strategy identifies Key Watersheds as being areas containing important refuge habitat for the stocks at risk. The Key Watershed network will work well for coho and chinook salmon and steelhead but it is not adequate for pink and chum salmon."

The NWFP states that the seven salmonid species assessed are reliable biological indicators and representative species dependent on high quality habitat. Therefore, not all 21 races/species/groups of fish within the range of the northern spotted owl were analyzed in detail. Specifically, the Assessment Team did not consider pink, chum, and sockeye salmon in their assessment of the likelihood of attaining a set of outcomes for habitat for fish on federal lands. The ACS SEIS fish analysis is based on the same assumption.

FSEIS Volume II, Appendix F. pg. F-167

"Even with changes in land management practices and implementation of comprehensive restoration, it is possible that none of the alternatives would completely recover all degraded aquatic ecosystems within the next 100 years."

The habitat assessment ratings for anadromous fish stocks at risk under Alternative 9 are expected to reverse the trends of degradation and begin recovery of aquatic ecosystems and habitat on federal lands within the range of the northern spotted owl. The ACS SEIS fish analysis is based on the same assumption.

SOURCE: Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, April 1994

Record of Decision (ROD), pg. 23-24

"The riparian reserve system will conserve aquatic resources as well as provide dispersal habitat for spotted owls and suitable habitat for numerous species. "

The Proposed Action does not alter the size of interim Riparian Reserves nor does it alter the Standards and Guidelines that were developed to direct management activities within the Riparian Reserves.

Record of Decision (ROD), pg. 27

"All alternatives except Alternatives 7 and 8 would "reverse the trend of degradation and begin recovery of aquatic ecosystems and habitat" ..." (emphasis original).

The assessments of the alternatives of the Northwest Forest Plan that were done on the aquatic component of the original EIS are not affected by the proposed changes to the ROD. In evaluating the alternatives, the original assessments considered: (1) all of the components of the Aquatic Conservation Strategy, Riparian Reserves, Key Watersheds, Watershed

Restoration, and Watershed Analysis; and (2) potential influences of factors such as the amount and location of and activities allowed in Late Successional Reserves and matrix lands, and the amount and location of Congressionally Withdrawn Areas. With regards to Riparian Reserves, the assessment of the various options considered the size of the interim riparian reserves and the associated standards and guidelines. The Standard and Guidelines were assumed to apply primarily to activities in the Riparian Reserve. The Proposed Action does not change Riparian Reserves.

Record of Decision (ROD), pg. 46

"Our decision also contains elements that provide for owl dispersal habitat, including wide Riparian Reserves .... "

The Proposed Action does not change the Riparian Reserves.

APPENDIX C

PUBLIC SCOPING SUMMARY

Reply Refer To: 1950-3 (FS)/ 1793 (BLM) **Date:** February 10, 2003

EMS TRANSMISSION
BLM-Information Bulletin No. OR-2003-

Subject: Content Analysis and Identification of Significant Issues
Aquatic Conservation Strategy SEIS

To: Lisa Freedman
Director, Resource Planning and Monitoring

The Aquatic Conservation Strategy (ACS) Supplemental Environmental Impact Statement (SEIS) interdisciplinary team has completed reviewing and analyzing responses to the scoping efforts. As instructed in the Project Initiation Memorandum, I am submitting the results of our content analysis for your review.

More than 400 letters, faxes, and e-mails (collectively referred to as scoping comments) were received from a wide variety of parties including environmental organizations, industry associations, local governments, individuals, and two Inter-tribal fish commissions. Scoping comments covered a wide array of interests.

I directed my team to identify both significant and non-significant issues during the content analysis process. The following is a discussion of the comments received and how they were analyzed. Every comment was read and considered, even though not every comment is mentioned here.

Significant Issues

We considered significant issues to be those that could lead to: (1) alternative development, (2) modification of an alternative, (3) development of mitigation measures, or, (4) identification of elements that need to be tracked throughout the analysis process.

a. Alternative development or modification

Many commenters suggested the ACS is not "broken" and does not need to be fixed. They expressed concern that proposed changes to the ACS could modify the intent of the watershed analysis as it relates to the planning process. Some commenters thought the replacement language was confusing and should be changed. Several commenters were concerned that there was inadequate information to support the purpose and need statement.

The Proposed Action was modified to respond to these comments. The role of watershed analysis was emphasized. The replacement language was clarified and expanded to cover ambiguities identified in the comments. The Purpose and Need was reinforced with additional information.

Some commenters suggested that references to ACS objectives should be removed from the standards and guidelines to acknowledge that projects should not be expected to

achieve all ACS objectives at all scales. Language was added to the Proposed Action to clarify that references to ACS objectives in the standards and guidelines are not intended to imply that decision makers are required to demonstrate that all projects achieve all ACS objectives at all scales.

Numerous other alternatives to the proposed action were suggested. Many of these alternatives were outside the scope of the proposed action, did not respond to the purpose and need for action, or were infeasible to implement. Many of these alternatives will be addressed in the Alternatives Considered but Eliminated discussion in the Draft SEIS. Suggestions such as eliminating the Northwest Forest Plan in its entirety and creating new categorical exclusions were not considered at all.

Some comments indicated that the SEIS should consider options such as passive, pulsed, and continuous restoration and cited the Five Rivers Landscape Management Project on the Waldport Ranger District of the Siuslaw National Forest. These options were not considered further because one of the identified needs of the Five Rivers project is "to learn from a variety of strategies for achieving late-successional forest conditions and aquatic conservation." The Five Rivers project includes a study of passive, pulsed, and continuous restoration pathways. The study is just beginning and no monitoring results are available. In addition, the team determined it would not be practical to consider these restoration options at the Northwest Forest Plan scale because of the widely varying condition of lands in the area. Line officers at the individual administrative units can choose to consider these restoration options based on site-specific conditions.

Several commenters suggested that environmental consequences of the proposed wording change to the ACS needed to be combined with other reasonably foreseeable actions in a single EIS. These other actions included: (1) the Survey and Manage Supplemental EIS; (2) proposed changes to 36 CFR 219, the Forest Service planning rule; (3) proposed changes to 36 CFR 215, the Forest Service appeal rule; (4) proposed changes in categorical exclusions for both the Forest Service and BLM; (5) the Forest Service Region 6 Invasive Plants EIS; and, (6) the EIS for considering management alternatives for Port-Orford-Cedar. These activities cover a wide range of geographic areas that make attempting to describe reasonable alternatives impractical.

Comments related to whether these changes have been included in proposed legislation were determined to be outside the scope of the proposed action. The agencies have the authority to make changes to the Northwest Forest Plan without relying on legislative processes.

Additional alternatives that were considered, but eliminated include: (1) No cutting or removal of trees older than 80 years, (2) suggestions to exempt ski resorts from the ACS standards and guidelines; (3) suggestions for additional ACS mitigation measures ; (4) suggestions to change the role of watershed analysis, (5) suggestions to streamline procedures for planning restoration activities ; (5) suggestions to establish specific requirements for cumulative watershed impact analysis; and, (6) suggestions to add a 10-year time frame for achieving ACS objectives..

b. Mitigation measures

The interdisciplinary team did not develop any mitigation measures based on public or internal agency comment.

c. Track throughout process

The interdisciplinary team did not identify any significant issues that need to be tracked throughout the process.

Non-significant Issues

We considered non-significant issues to be those that: (a) have already been decided by law, regulation, or policy; (b) were previously analyzed in the Northwest Forest Plan or other analysis documents; or, (c) are opinions or conjectural statements.

a. Law, regulation, or policy

Commenters asked that the no-action alternative be comprehensively compared to the action alternative. This issue was determined to be non-significant because comparing alternatives is already required by regulation.

Some commenters stated that amending the ACS would reduce protection for salmon and runs counter to applicable federal laws such as the National Forest Management Act (NFMA) and the Endangered Species Act (ESA). This issue was determined to be non-significant because the agencies will continue to comply with applicable federal laws. The Proposed Action would retain all components of the ACS.

b. Previously analyzed

Commenters suggested that there is a need for long-term, large-scale monitoring of activities to assess ACS objectives. The recent Aquatic Riparian Effectiveness Monitoring Plan is designed to assess the ACS objectives over time. This concern was identified as a non-significant issue and was not tracked further because the Northwest Forest Plan already analyzed the need for long-term and large-scale monitoring efforts.

Some comments suggested that there is simply no way that the agencies can clearcut mature forest and still "maintain" watershed conditions. The Northwest Forest Plan Final SEIS analyzed a range of alternatives that allowed timber harvest to varying degrees. There is no identified need to revisit decisions made in the Northwest Forest Plan Record of Decision relative to timber harvests.

Several commenters were concerned that clarifying language in the ACS would undermine the entire Northwest Forest Plan. This issue was determined to be non-significant because clarifying language in the ACS would not alter any land allocation nor would it alter any standard and guideline. All components of the ACS are retained.

c. Opinions

Many comments were conjectural or were opinion. These comments were not considered further. Here are a few examples of comments that are opinions.

"The ACS does not have to be amended. The solution is to drop or modify timber sales and other activities that harm salmon, then resolve to protect the best habitat that remains, and embrace forest and watershed restoration."

"The agencies want to implement destructive management practices."

"Weakening the Aquatic Conservation Strategy will only breed more conflict and controversy."

"The cumulative impacts of natural disturbances such as the Biscuit Fire, in addition to the short-term impacts associated with the huge backlog of restoration needs leaves no room for non-restorative commodity timber sales."

Other opinion-type comments seemed to be based on misinformation or a misunderstanding about the proposed action. One commenter was concerned that the agencies were proposing to eliminate public comments on individual timber sales, while another commenter thought the agencies were proposing to eliminate watershed analysis. Comments such as these were not considered further because the agencies are not proposing to eliminate public comment processes or the requirement to complete watershed analysis.

Other Issues

We also considered other issues that did not fit as significant or non-significant but that could be resolved by some means.

Some comments suggested that the agencies should provide a fax number and e-mail address for submitting comments. Others would like to have a telephone number to directly contact someone with questions. These issues can be resolved by including contact information in the Draft SEIS, in letters notifying the public of comment opportunities, and/or on the ACS SEIS website.

A couple of commenters suggested that the SEIS needed to include definitions of specific terms (short term, landscape scale) and their meaning as used in this analysis. These issues can be resolved by including a glossary in the SEIS or by providing parenthetical definitions in the text where the term is used.

One commenter noted that the web page was difficult to find and could not be located through standard search engines. This comment can be resolved by providing more prominent links to ACS information from the Region 6 web page or identifying a specific web address in the contact section of the SEIS and in letters to the public.

Several commenters were concerned that there was inadequate information to support the purpose and need statement. The purpose and need section has been revised to address these concerns.

Preliminary Issues

The Project Initiation Memorandum identified four preliminary issues that should be assessed in the SEIS. After completing the analysis of public comments, the interdisciplinary team reviewed the preliminary issues and determined the SEIS should address three of the four.

a. New scientific or other information that has been developed since 1994.

Several scoping letters discussed new information and changed circumstances since 1994. Most of the discussion related to new information focused on anadromous fish species and listings under the Endangered Species Act. The interdisciplinary team is considering new scientific and other information. This information will be included as part of the affected environment and environmental consequences discussions contained in Chapter 3&4.

b. Findings from two types of monitoring and whether monitoring has identified a need for modification of the ACS standards and guidelines.

The interdisciplinary team reviewed information developed from recent monitoring efforts. Implementation monitoring for the last 3 years indicates that there is a high level of compliance with standards and guidelines for timber sales. None of the findings noted in the reports warranted recommending major corrective actions or operational shifts. The Aquatic Riparian Effectiveness Monitoring Plan is still in its infancy and did not provide any information that warranted recommending changes. Based on the information contained in the Northwest Forest Plan Monitoring Program Reports, there is no identified need for modifications to the ACS standards and guidelines other than the proposed language clarification included in the proposed action.

Scoping letters contained discussions related to monitoring. Most of the comments focused on the need to continue monitoring efforts. One commenter wanted to know how the results of monitoring influenced the proposed action. As noted above, monitoring results did not influence the proposed action nor has it identified a need for additional amendments.

c. The effect that replacement language will have on the environment.

Chapter 3&4 of the Draft SEIS will disclose the environmental consequences of the replacement language.

d. Effects disclosures as required by law and policy.

Chapter 3&4 of the Draft SEIS will disclose the environmental consequences of the alternatives on Threatened, Endangered, and Sensitive Species; cultural resources; and wetlands, as well as other required disclosures.

/s/ JOYCE CASEY
Team Leader
Interagency ACS SEIS Team

United States Department of Agriculture	Forest Service	R-6	OR/ WA	Bureau of Land Management	United States Department of Interior

Reply Refer To: 1900 (FS)/ (BLM) (OR-934)

Date: Dec. 13, 2002

As a party with an interest in the Northwest Forest Plan, please be advised that we are seeking your input on the following amendments to selected portions of the Aquatic Conservation Strategy (ACS). Our intent is to clarify the wording in the Northwest Forest Plan (NWFP) Record of Decision (ROD) through a Supplemental Environmental Impact Statement (SEIS) to better convey the intent of the scientists who originally framed the ACS.

As background, please recall that the Secretaries of Agriculture and Interior signed the ROD for the Northwest Forest Plan on April 13, 1994. That Decision amended all Forest Plans (FS) and Bureau of Land Management (BLM) Resource Management Plans (RMP's) within the range of the Northern Spotted Owl (i.e. Western Oregon, Washington, and Northern California).

This proposal would amend this 1994 Record of Decision. A detailed description of the proposed changes follows for your consideration and comment:

The Proposed Action

The U.S.D.A. Forest Service (FS) and the U.S.D.I. Bureau of Land Management (BLM) are proposing editorial changes to selected portions of the Aquatic Conservation Strategy of the NWFP to clarify guidance intended to protect and restore watersheds. A decision to implement this proposal would result in amendments to all the Forest Plans and Resource Management Plans within the range of the Northern Spotted Owl. The proposed changes are as follows:

Change 1 -- Replace paragraph 2, page B-10, Attachment A of the 1994 ROD with the following:

> *"Since achievement of landscape-scale objectives cannot be meaningfully evaluated on a site-specific, project-by-project basis, the Standards and Guidelines of Sections C and D are designed to be the way that consistency with the ACS objectives is ensured at the site scale. The standards and guidelines specified in Sections C and D ensure that projects will "meet" or "not prevent attainment of" the Aquatic*

Conservation Strategy objectives, while acknowledging that short-term, site-level impacts may occur. To ensure achievement of the ACS, the decision maker—in the course of project planning—must find that proposed management activities are consistent with the ACS by applying the following:

a) To be consistent with the ACS objectives, activities must be designed in accordance with the Standards and Guidelines in Section C of the 1994 ROD. The site-specific analysis of proposed activities must consider the relevant information in any applicable watershed analysis.

b) The administrative record for activities must explain and document this finding of ACS consistency. As appropriate, this documentation should discuss modifications applied to the action as needed to ensure consistency with Standards and Guidelines. The record should also discuss how any information or recommendations in the applicable watershed analysis were considered.

In summary, the four components of the Aquatic Conservation Strategy (riparian reserves, key watersheds, watershed analysis, and watershed restoration), in combination with application of pertinent Standards and Guidelines, are expected to move federal land management toward maintaining and restoring ecosystem health at watershed and landscape scales. This goal is further articulated in the following Aquatic Conservation Strategy Objectives:"

Change 2 – The following changes would be made to Attachment A of the 1994 ROD:

Paragraph 1, page i, Outline: The entire paragraph would be deleted.

Paragraph 3, page A-6: The entire paragraph would be deleted.

Paragraph 1, page C-1: The entire paragraph would be deleted.

Why Are These Changes Being Proposed?

A key element of the NWFP is the Aquatic Conservation Strategy (ACS), a science-based framework to guide the restoration and protection of Pacific Northwest watersheds. To understand the rationale behind what we are proposing, it is critical to understand the difference between the ***Components, Objectives***, and ***Standards and Guidelines*** portions of the ACS. Portions of the 1994 NWFP Record of Decision are attached for your reference, and a complete copy of the 1994 ROD and attachments may be reviewed at the website (http://www.reo.gov/) or requested in hardcopy from the address below. The following provides a brief summary for your convenience:

Components and Objectives:
The ACS is comprised of four ***Components*** (riparian reserves, watershed analysis, key watersheds, and watershed restoration) and nine ***Objectives*** that are intended to provide for ecosystem health at the landscape scale. The NWFP Record of Decision requires that National Forest System lands and Bureau of Land Management lands be managed to achieve these ***Objectives***.

Standards and Guidelines:
Appendices C and D of the NWFP Record of Decision provide specific ***Standards and Guidelines*** that provide further direction intended to ensure achievement of the ACS Objectives. These provide specific project design guidance to ensure that watersheds and aquatic species are protected.

The Problem:
Confusion has arisen within the agencies and with the public regarding the intent and application of the ACS; largely caused by lack of understanding of project-level versus larger-scale effects from Forest management activities. We believe that the source of this misunderstanding is a lack of clarity in the wording of the original Record of Decision, largely focused on a statement in Appendix B:

> *"The intent is to ensure that a decision maker must find that the proposed management activity is consistent with the Aquatic Conservation Strategy* ***Objectives*** [emphasis added]." *(Appendix B-10, second paragraph)*

The problem that has arisen is that ACS ***Objectives*** were not intended to be applied or assessed for projects at the site-specific scale. They represent processes or conditions that operate or are relevant only when viewed at broader scales of time and space (for example, watersheds and subwatersheds). Projects, even restoration activities, frequently involve some type of short term ground disturbance; and so decision makers are frequently faced with the dilemma of not complying with the Objectives and the direction in Appendix B-10 under the currently policy.

An Example:
A District proposes to replace an existing culvert with a bridge to facilitate fish passage. Although the bridge clearly would provide habitat improvement needed for aquatic species, and would achieve part of the watershed restoration ***Component*** of the Aquatic Conservation Strategy, it would also create temporary and long-term site-specific effects that would appear to violate several ACS ***Objectives*** (e.g. ***Objectives*** for "...sediment regime...(due to temporary ground disturbance), "...distribution, diversity, and complexity of watershed and landscape features..." (due to the construction of abutments and long-term existence of a bridge and approach roads, etc.). The project would not comply with the Appendix B-10 guidance noted above.

The Proposed Action is intended to eliminate this confusion by making editorial changes that we believe better convey the scientific guidance provided by the original ACS authors, and the decision intended by the Responsible Officials. ***It does so by changing the wording in the noted Appendices to clearly direct that site-specific projects must be assessed against, and must comply with, the Standards and Guidelines – not the Objectives***. The FS, BLM, NOAA Fisheries and the U.S. Fish and Wildlife Service; as well as the scientists who originally developed the ACS have agreed that site-specific projects meeting the Standards and Guidelines in Appendices C and D are, by definition, consistent with the ACS.

Monitoring the Effectiveness of the Aquatic Conservation Strategy:

The Proposed Action suggests editorial changes to direct that projects comply with the ***Standards and Guidelines*** of the ACS. As we propose this change, we believe it is also important to understand the mechanisms by which the landscape-level ***Objectives*** and effectiveness of the ACS will be monitored to ensure that watershed health and restoration is accomplished per the NWFP Decision.

We are assessing the implementation and effectiveness of the ACS through the Interagency Regional Monitoring Program that was established in the ROD and has been in place for the Northwest Forest Plan since 1996 (please refer to the Program website: http://www.reo.gov/monitoring/. This effort conducts large-scale monitoring on federally managed lands in western Washington, Oregon, and northwestern California and represents the combined monitoring efforts of eight agencies and partnerships with State agencies and academic institutions. Over a five-year period, a representative sample of watersheds is being sampled in the NWFP area and the findings incorporated into a comprehensive report.

Other ongoing efforts to assess watershed health include the Aquatic Riparian Effectiveness Monitoring Plan (AREMP), which was approved in March 2001, and various on-going research projects that seek to determine if the science used to develop the ACS continues to be valid over time.

What Decision is Being Made and Who are the Decision Makers?

The Secretaries of Agriculture and the Interior will decide:

- Whether to amend the Aquatic Conservation Strategy portions of the Northwest Forest Plan as proposed above,
- To make other types of clarifying amendments that would meet the same need,
- Or to take no action at this time.

Who Would Be Affected By This Proposal?

This Proposal would amend the 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl through a Supplemental Environmental Impact Statement (SEIS) and Record of Decision (ROD). All lands currently being managed under the Northwest Forest Plan would be affected.

How Can I Comment?

At this time, we are in the Public Involvement, or "Scoping", phase of this SEIS. Through this document and the Notice of Intent in the Federal Register (published Nov. 25, 2002), we are informing you of our proposal and actively seeking your comment and input.

Please submit your comments by January 13, 2002 to the following address:

Comments, SEIS for Aquatic Conservation Strategy
P.O. Box 2965
Portland, OR 97208

As always, we appreciate your continuing interest in the management of our public lands and the protection of our watersheds. If you have questions regarding the proposal or the process, please contact our web address at: http://www.reo.gov/acs.

Sincerely,

Linda Goodman
ACTING REGIONAL FORESTER

Elaine M. Brong
STATE DIRECTOR

APPENDIX D

SPECIES LISTED OR PROPOSED FOR LISTING UNDER THE ENDANGERED SPECIES ACT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
911 NE. 11th Avenue
Portland, Oregon 97232-4181

February 25, 2003

IN REPLY REFER TO:

Joyce Casey
U.S. Forest Service
SEIS for Aquatic Conservation Strategy
P.O. Box 2965
Portland, Oregon 97208

Dear Ms. Casey:

This responds to your letter dated January 24, 2003, requesting a list of endangered, threatened, proposed, and candidate species under the jurisdiction of the Fish and Wildlife Service that should be considered in relation to the Forest Service's proposed amendment to the 1994 Record of Decision for the Northwest Forest Plan as it pertains to the Aquatic Conservation Strategy. Enclosed is the list you requested including any relevant designated and proposed critical habitat. This list was prepared in accordance with section 7(c) of the Endangered Species Act. If you have any questions regarding this list or your responsibilities under the Act, please contact Daniel Brown of this office at (503) 231-6281.

Sincerely,

Cynthia U. Berry

Assistant Regional Director-Ecological Services

Enclosure

FEDERALLY ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES, AND CRITICAL HABITAT KNOWN TO OCCUR WITHIN THE NORTHWEST FOREST PLAN AREA

SPECIES	COMMON NAME	STATUS
Plants		
Arabis macdonaldiana	McDonald's rock-cress	E
Arenaria paludicola	marsh sandwort	E
Artemesia campestris ssp. *borealis* v. *wormskioldii*	Northern wormwood	C
Astragalus applegatei	Applegate's milkvetch	E
Calochortus persistens	Siskiyou mariposa lily	C
Castilleja levisecta	golden paintbrush	T
Chorizanthe howelii	Howell's spineflower	E
Eriogonum kelloggii	Red Mountain buckwheat	C
Erysimum menziesii	Menzies' wallflower	E
Fritillaria gentneri	Gentner's mission-bells	E
Hackelia venusta	showy stickseed	E
Howellia aquatilis	water howellia	T
Lasthenia burkei	Burke's goldfields	E
Lasthenia conjugens	Contra Costa goldfields	E,PCH
Layia carnosa	beach layia	E
Limnanthes floccosa ssp. *grandiflora*	large-flowered meadowfoam	E
Lomatium bradshawii	Bradshaw's desert-parsley	E
Lomatium cookii	Cook's lomatium	E
Lupinus sulphureus var. *kincaidii*	Willamette Valley lupine (Kincaid's)	T
Orcutia tenuis	slender Orcutt grass	T,PCH
Phlox hirsuta	Yreka phlox	E
Sedum eastwoodiae	Red Mountain stonecrop	C
Sidalcea nelsoniana	Nelson's checkermallow	T
Sidalcea oregana var. *calva*	Wenatchee Mountains checkermallow	E,CH
Spiranthes diluvialis	Ute ladies'-tresses	T
Thlaspi californicum	Kneeland penny-cress	E,CH
Trifolium amoenum	showy Indian clover	E
Invertebrates		
Branchinecta lynchi	vernal pool fairy shrimp	T,PCH
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	T
Euphydrkykas editha taylori	Whulge checkerspot butterfly	C
Icaricia icarioides fenderi	Fender's blue butterfly	E
Lycaeides argyrognomon lotis	lotis blue butterfly	E,PCH
Pacifiastacus fortis	Shasta crayfish = placid	E
Polites mardon	Mardon skipper	C
Speyeria zerene behrensii	Behren's silverspot butterfly	E
Speyeria zerene hippolyta	Oregon silverspot butterfly	T,CH
Syncaris pacifica	California freshwater shrimp	E
Fish		
Chasmistes brevirostris	shortnose sucker	E,PCH
Deltistes luxatus	Lost River sucker	E,PCH
Eucyclogobius newberryi	tidewater gobi	E,CH
Hypomesus transpacificus	delta smelt	T,CH
Oregonichthys crameri	Oregon chub	E
Pogonichthys macrolepidotus	Sacramento splittail	T
Salvelinus confluentus (coterm USA)	bull trout	T,PCH
Salvelinus malma	Dolly Varden (Similarity of Appearance)	P

SPECIES	COMMON NAME	STATUS
Amphibians		
Rana aurora draytonii	California red-legged frog	T,CH
Rana pretiosa	Oregon spotted frog	C
Birds		
Brachyramphus marmoratus marmoratus	marbled murrelet	T,CH
Charadrius alexandrinus nivosus	western snowy plover (coastal pop)	T,CH
Coccyzus americanus occidentalis	western yellow-billed cuckoo	C
Eremophila alpestris strigata	streaked horned lark	C
Haliaeetus leucocephalus	bald eagle	T
Pelecanus occidentalis californicus	California brown pelican	E
Phoebastris albtrus	short-tailed albatross	E
Strix occidentalis caurina	northern spotted owl	T,CH
Mammals		
Aplodontia rufa nigra	Point Arena mountain beaver	E
Canis lupus	gray wolf	E
Lynx canadensis	Canada lynx	T
Odocoileus virginianus leucurus	Columbian white-tailed deer	E
Thomomys mazama	Mazama pocket gopher	C
Ursus arctos horribilis	grizzly bear	T

KEY

E - Endangered
T - Threatened
P - Proposed
C - Candidate
CH - Critical Habitat
PCH - Proposed Critical Habitat

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
525 NE Oregon Street
PORTLAND, OREGON 97232-2737

February 25, 2003

Refer to: OHB2003-0022-SL

Joyce E. Casey
SEIS for Aquatic Conservation Strategy
P.O. Box 2965
Portland, OR 97208

Re: Species List Request for the Northwest Forest Plan's Supplemental Environmental Impact Statement; Western Oregon, Washington, and Northern California

Dear Ms. Casey:

The National Marine Fisheries Service (NOAA Fisheries) received your letter requesting a list of threatened and endangered species for the proposed action located in western Oregon, Washington, and northern California, on February 3, 2003.

We have enclosed a list of Pacific salmon (i.e., salmon and steelhead) occurring within the Northwest Forest Plan (NFP) area under NOAA Fisheries' jurisdiction that are listed as endangered or threatened under the Endangered Species Act (ESA) (Enclosure 1). As per your request, candidate species were also included. No Pacific salmon species are currently proposed for listing under the ESA by NOAA Fisheries. Please contact the U.S. Fish and Wildlife Service regarding the presence of species falling under its jurisdiction.

This letter constitutes the required notification of the presence of a Federally-listed endangered or threatened species or critical habitat under NOAA Fisheries' jurisdiction in the area that may be affected by the proposed project Appendix A to Part 330, section C.13(5)(I)). Please refer to section 7 of the ESA and its implementing regulations (50 CFR Part 402) for information on the consultation process. Additional information on listed species' distribution, copies of Federal Register documents designating listed species status, and links to various ESA consultation policies and tools may be found on our web site at: www.nwr.noaa.gov.

In addition, the Pacific Fisheries Management Council, which was established under the Magnuson-Stevens Fishery Conservation and Management Act, has described and identified essential fish habitat (EFH) in each of its fisheries management plans. EFH includes "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity."

Additional information on designated EFH within the Pacific Northwest, and links to various EFH consultation policies and tools may be found on our web site at:
http://www.nwr.noaa.gov/1habcon/habweb/efh/msa.htm.

Please direct any questions regarding this letter and anticipated consultation to Steven Morris of NOAA Fisheries at 503.808.2176.

Sincerely,

Michael P. Tehan

Chief, Oregon Habitat Branch Habitat Conservation Division

Enclosure (1)
Endangered, Threatened and Candidate Pacific Salmon under NOAA Fisheries' Jurisdiction in the Northwest Forest Plan areas of Washington, Oregon, and California

Enclosure 1.
Endangered, Threatened and Candidate Pacific Salmon under NOAA Fisheries' Jurisdiction in the Northwest Forest Plan areas of Washington, Oregon, and California

Evolutionarily Significant Unit	**Final Rule** E = Endangered, T = Threatened, C = Candidate	**Critical Habitat (Final Rule)**	**Protective Regulations (Final Rule)**
Chinook Salmon			
Puget Sound Chinook Salmon	T: March 24, 1999 64 FR 14308	N/A	July 10, 2000 65 FR 42422
Lower Columbia River Chinook Salmon	T: March 24, 1999 64 FR 14308	N/A	July 10, 2000 65 FR 42422
Snake River Fall Chinook Salmon	T: April 22, 1992 57 FR 14653	December 28, 1993 58 FR 68543	April 22, 1992 57 FR 14653
Snake River Spring/Summer Chinook Salmon	T: April 22, 1992 57 FR 14653	October 25, 1999 64 FR 57399	April 22, 1992 57 FR 13653
Upper Columbia River Spring Chinook Salmon	E: March 24, 1999 64 FR 14308	N/A	ESA section 9 applies
Upper Willamette River Chinook Salmon	T: March 24, 1999 64 FR 14308	N/A	July 10, 2000 65 FR 42422
California Coastal Chinook Salmon	T: September 16, 1999 64 FR 50393	N/A	N/A`
Sacramento River Winter-run Chinook Salmon	E: January 4, 1994 59 FR 440	June 16, 1993 58 FR 33212	ESA section 9 applies
Central Valley Spring-run Chinook Salmon	T: September 16, 1999 64 FR 50393	N/A	N/A
Central Valley Fall-run Chinook Salmon	C: September 16, 1999 64 FR 50393	N/A	N/A
Chum Salmon			
Hood Canal summer-run Chum Salmon	T: March 25, 1999 64 FR 14508	N/A	July 10, 2000 65 FR 42422
Columbia River Chum Salmon	T: March 25, 1999 64 FR 14508	N/A	July 10, 2000 65 FR 42422
Coho Salmon			
Puget Sound/Strait of Georgia Coho Salmon	C: July 25, 1995 60 FR 38011	N/A	N/A
Lower Columbia River/SW	C: July 25, 1995 60 FR 38011	N/A	N/A

Washington Coho Salmon			
Oregon Coast Coho Salmon	T: August 10, 1998 63 FR 42587	N/A	July 10, 2000 65 FR 42422
S. Oregon/Northern California Coasts Coho Salmon	T: May 6, 1997 62 FR 24588	May 5, 1999 64 FR 24049	July 18, 1997 62 FR 38479
Central California Coast Coho Salmon	T: October 31, 1996 61 FR 56138	May 5, 1999 64 FR 24049	October 31, 1996 61 FR 56138

Sockeye Salmon

Ozette Lake Sockeye Salmon	T: March 25, 1999 64 FR 14528	N/A	July 10, 2000 65 FR 42422
Snake River Sockeye Salmon	E: November 20, 1991 56 FR 58619	December 28, 1993 58 FR 68543	ESA section 9 applies

Steelhead

Lower Columbia River Steelhead	T: March 19, 1998 63 FR 13347	N/A	July 10, 2000 65 FR 42422
Middle Columbia River Steelhead	T: March 25, 1999 64 FR 14517	N/A	July 10, 2000 65 FR 42422
Snake River Basin Steelhead	T: August 18, 1997 62 FR 43937	N/A	July 10, 2000 65 FR 42422
Upper Willamette River Steelhead	T: March 25, 1999 64 FR 14517	N/A	July 10, 2000 65 FR 42422
Northern California Steelhead	T: June 7, 2000 65 FR 36074	N/A	N/A
Central California Coast Steelhead	T: August 18, 1997 62 FR 43937	N/A	July 10, 2000 65 FR 42422
California Central Valley Steelhead	T: March 19, 1998 63 FR 13347	N/A	July 10, 2000 65 FR 42422
Oregon Coast Steelhead	C: March 19, 1998 63 FR 13347	N/A	N/A
Upper Columbia River Steelhead	E: August 18, 1997 62 FR 43937	N/A	ESA section 9 applies

APPENDIX E

POTENTIAL CHANGED CONDITIONS REPORT

APPENDIX R

POTENTIAL CHANGED CONDITIONS REPORT

Potential Changed Conditions

The BLM and FS considered whether large wildland fires, floods, drought, or other unusual weather patterns occurring since 1994 changed the Affected Environment described in FEMAT or the Northwest Forest Plan Final SEIS. These natural episodic disturbance events are an integral part of process-based management contained in the Aquatic Conservation Strategy. As stated in the FEMAT report (page V-29) and the Northwest Forest Plan FSEIS (page B-81):

> "The heart of the approach is the recognition that fish and aquatic organisms evolved within a dynamic environment."

Wildland and Prescribed Fire

Over the Northwest Forest Plan area, wildfire has been the most frequent and widespread, coarse-scale disturbance event. Fire return intervals are highly variable throughout the area and range from as much as 400 - 500 years in the Mount Rainier National Park to as little as every three to four years in dry, eastside pine areas of northern California. Wildfires can also cover as little area as a lightening struck tree and as much as 250,000 acres, and rarely as large as the 2002 Biscuit Fire, which covered half a million acres.

Wildfire has always played a role in forming the landscapes of the Northwest. Many species are dependent upon fire for habitat formation, regeneration processes and forage production. However, well-intentioned suppression activities over the last 80 to 100 years have altered stand structures and composition in low-elevation forests. That alteration has shifted the fire frequency and intensity patterns of both eastside and westside forests. Overall, more fires are larger, more intense, and more difficult to control. About 1 percent of all wildfires in the west are responsible for about 98 percent of all areas burned (Straus and others, 1989). [Insert data, citation] Fire suppression is believed to have stretched the fire return interval in areas that historically averaged a fire every seven years to one every forty years (Lehmkuhl, cite). Fewer low-intensity fires cover large areas – they are easier to control and more likely to extinguish on their own. Suppression strategies for the more intense fires are both dangerous and expensive. The FEMAT report (p. III-35) states:

> "... large-scale disturbances are natural events, such as fire, that can eliminate owl habitat on hundreds of acres. Certain risk management activities, if properly planned and implemented, may reduce the probability of these major stand-

> replacing events. There is considerable risk of such events in Late-Successional Forest Reserves in the eastern Oregon Cascades, eastern Washington Cascades, and California Cascades provinces and a lesser risk in the Oregon Klamath and California Klamath provinces. Elevated risk levels are attributed to changes in the characteristics and distribution of the mixed conifer forests resulting from past fire protection."

The changing patterns in fire behavior have been known for some time. The 1988 Yellowstone National Park fires served to bring the issue into sharp focus. Although paleo-ecological records indicated that fires of this magnitude had occurred in the area over the last, much of the public, many land managers and decision-makers seemed relatively unaware of the probabilities of fires of this magnitude. These large-scale events (over 5,000 square kilometers) occurred very infrequently and had a periodicity far longer than the average person's lifetime. Although the extreme wildfire events of the 2000 and 2002 fire season have left us with strong reminders of the shifts in our landscape, the possibility was well known during the development of the FEMAT analysis and FSEIS effects analysis of the Northwest Forest Plan. The FEMAT report cites literature by Jerry Franklin and Tom Spies from 1984 that estimates similar fire frequencies and behaviors. One of the primary limitations in the FEMAT analysis of the probabilities of developing late-successional and old growth conditions was fire behavior. FEMAT states (pp IV-72) that:

> "The probabilities of large-scale disturbances and other environmental changes during the next 100 years are high. The region has historically been subjected to large fires ..."

Prescribed fire has been adopted as a mechanism of simulating the less intense fires that were more extensive and frequent in the past. Prescribed fires generally leave more naturally patchy burn areas with much greater overstory retention. They help eliminate ground fuels to reduce the risks and hazards of allowing natural wildfires to run their course.

As mentioned elsewhere in references to the development of the ACS, the framers of the Northwest Forest Plan focused on disturbance ecology as a central organizing principle. They were well aware of the role that disturbances play in forming our landscapes, creating wildlife habitat, and affecting the distribution and abundance of organisms. They also showed a profound understanding of the relevance of scale to developing and maintaining a long-term conservation and sustainable production strategy.

The Northwest Plan framers translated that understanding into eleven terrestrial objectives and nine Aquatic Conservation Strategy objectives. Terrestrial objective nine addressed the concern with managing large-scale disturbances such as wildfire:

> "To reduce risk to late-successional ecosystems resulting from large-scale disturbances and unacceptable loss of habitat due to large-scale fire, insects, and disease and major human impacts."

Terrestrial objective 7 also refers to natural processes that would include fire:

> "To maintain ecological processes, including those natural changes that are essential for the development and maintenance of late-successional and old-growth ecosystems."

Many of the plan objectives apply to larger-scale features. These features may only be monitored at larger scales than that of the 26 individual planning units that are under the Forest Plan. Large-scale fire events are one good example of the type of event intended to be monitored and managed at the larger, regional scale.

Through combinations of dendrochronology, sediment charcoal and pollen and fossil records, we have a large-scale record of fire history over thousands of years. Looking at ten sampling areas throughout the Pacific Northwest, Dr. Fred Swanson at the Pacific Southwest Research Station in Corvallis has established that the 1500s and the 1800's were both considered periods of intensive fire. The 1600's, 1700s and 1900s were centuries that experienced relatively less wildfire in the area. He also believes that major fire events occurred both 450 years ago and 125 years ago. Because of the long periodicity of wildfire events and cycles, the eight years that have passed since the signing of the Forest Plan are insufficient to evaluate whether or not we are outside the scope of the effects analysis of the FSEIS. Although the fire years of 2000 and 2002 were costly, catastrophic and dramatic, they are insufficient to establish a fire regime substantially different than that of eight years ago as analyzed under the Northwest Forest Plan. Fires since 1994 do not change the planning assumptions or effects analysis presented in the Northwest Forest Plan and associated reports, particularly those assumptions relevant to this SEIS.

Floods

Flooding is recognized as part of a natural landscape disturbance regime. Floods transport and redistribute wood and sediment unevenly throughout the channel network (FEMAT, V-13). The terms "peak flow" and "flood" are often used interchangeably; public perception tending to associate the term "floods" with rare catastrophic events.

Floods are important disturbances that provide for the formation of complex habitats as material is transported through the stream network during high flows. The formation of complex habitat is dependant on a full range of flow and processes like landslides to provide sediment and wood for transport. Benda (1998) and others have demonstrated that peak flows (winter floods) that occur approximately one out of three years can move landslide-derived sediment downstream. Floods large enough to transport wood may occur frequently, but transport of wood depends on the wood supply and topography (Nakamura and Swanson, 1993).

Flood frequency and magnitude is variable over time and large catastrophic floods can happen during any year. The actual number of years between floods of any given size varies as climate varies. The term "100 year flood" can lead people to believe that a large flood can happen only once every 100 years. Actually the term is really a statistical designation, meaning there is a "1-in-100 chance" that a flood this size will happen during any year (USGS, 1996). Probability estimates improve each year that records are kept.

Numerous major floods have occurred across the Northwest Forest Plan area since 1994. Four major storm events were considered "100-year floods" in 1995 and 1996. More than one "100-year flood" occurred in the same sub-basins in successive or nearly successive years (USGS 1998).

None of the major floods occurring since 1994 were caused by dam failure or other human activity. Floods in the area often occur during an El Nino weather pattern, which are associated with warm and wet conditions. During these periods the area can be subject to intense flows of constant moisture from the Hawaiian Island chain that is known as the "pineapple connection." These set the stage for many floods including those that have occurred since 1994.

The agencies stepped up restoration activities in response to major floods in 1996 and 1997. Project accomplishments included:

- 3500 miles of stabilized roads,
- 60 miles of relocated roads,
- 900 miles of decommissioned roads
- over 200 upgraded road/stream crossings

Source: USDA, Recovery Report, Floods of 1996-1997.

Major floods were discussed in the Northwest Forest Plan FSEIS and FEMAT. The Proposed Action does not change the requirement to consider the role of peak flows and flooding in forming aquatic habitat nor the appropriate responses in the event of a flood. In both alternatives, the Watershed Analysis would need to consider the effects of floods at the watershed and larger scales in terms of restoration needs and adaptive management. Future restoration projects would need to comply with standards and guidelines and where appropriate, adapt new methods learned from these recent episodic events.

Drought

Drought is a normal, recurrent feature of climate and can be considered a natural "disturbance" even in humid areas. The frequency of droughts in the northwest depends on variable climatic conditions that appear to follow El Nino trends, especially north of Roseburg, Oregon (Taylor, 1988).

Drought is typical within the Northwest Forest Plan area, however the frequency, severity and duration of droughts in the Northwest Forest Plan area have varied dramatically over the last hundred years. NOAA records show that some part of the Pacific Northwest experiences a drought in 75 out of a 100-year period.

Just as with floods and wildland fires, FEMAT acknowledged droughts as natural catastrophes, which would occur periodically over long time periods (FEMAT V-I)

El Nino

El Nino events have been recorded seven times since 1940, including 1997-98. There is nearly 100 percent probability that moderate El Nino conditions will continue for the first quarter of 2003 (NOAA International Research Institute For Climate Prediction) and Pacific salmon and steelhead will continue be impacted by ocean conditions generated by broad scale weather patterns.

Anomalous warm sea surface temperatures and changes in costal currents and upwelling characterize El Nino ocean conditions. Principal ecosystem alterations include deceased food base productivity and changes in prey and predator species distribution. Increased mortalities and reduced growth have been noted in Pacific salmon populations off Oregon and Washington after previous El Nino events (NOAA 2000).

The ACS does not address ocean conditions affected by El Nino events, but rather, strives to maintain and restore freshwater habitats. Large weather patterns and ocean conditions are not affected by the Proposed Action and are therefore not relevant to the decision to be made.

Relationship Between Wildfires, Floods, Droughts and El Nino (Potential Changed Conditions) to the Decision to be Made

The events occurring since 1994 are not considered changed conditions that would invalidate the four components of the Aquatic Conservation Strategy (watershed analysis, watershed restoration, Key Watersheds, Riparian Reserves). The Northwest Forest Plan and Aquatic Conservation Strategy require consideration of natural disturbances in land management decisions. The events occurring since 1994 will be factored into the planning process at all scales as appropriate. The Proposed Action would not change the way the agencies respond to these events.

The Northwest Forest Plan provided an adaptive management approach to environmental conditions and events. The Northwest Forest Plan recognized that ecosystems are not static but are ever changing in response to conditions and events.

APPENDIX F

REVIEW OF SCIENTIFIC INFORMATION

REVIEW OF SCIENTIFIC INFORMATION
By GORDON REEVES, Ph.D.
March 20, 2003

The Aquatic Conservation Strategy (ACS) of the Northwest Forest Plan is designed to restore and maintain the process that create and maintain conditions in aquatic ecosystems over time across the area inhabited by the northern spotted owl (*Strix occidentalis caurina*). The ACS is a region-wide strategy designed to restore and protect the ecological processes and landforms the contribute habitat elements to streams and to promote the favorable ecological conditions for fish and other aquatic and riparian-dependent organisms (FEMAT 1993). The ACS was based on the best science available at the time.

Much scientific literature on aquatic ecosystems, on the impact of human activities on them, and on conservation strategies for fish and other aquatic and riparian organisms has been produced since FEMAT in 1993. This document summarizes key science findings on the topics of: (1) ecosystem and landscape dynamics and the range of natural variation (RNV); and (2) the ecological role of headwater streams. These are key topics that relate to ACS components and they are particularly relevant to the changes proposed by the Draft Supplemental Environmental Impact Statement. This document synthesizes some of the key peer-reviewed literature on these topics. However, it does not summarize or review all of the scientific literature about the topics listed previously or about other components of the ACS. Documents that provide excellent reviews and synthesis on these and other relevant topics include Spence et al. (1996), National Research Council (1996), Naiman and Bilby (1998), Gresswell (1999) and Everest and Reeves (in review).

Spatial and Temporal Scales and Disturbance

General Review

Prior to the development of the ACS, much of the focus for fish was on relatively small spatial scales, such as habitat units (Bisson et al. 1982, Nickelson et al. 1992) and reaches (Murphy and Koski 1989). Williams et al. (1989) found that no fish species listed under that Endangered Species Act was ever recovered after listing. They attributed this to the general failure of recovery efforts to focus on habitat attributes rather than on the restoration and conservation of ecosystems.

The ACS is focused at the ecosystem and landscape levels and developed for application over broad geographic areas. This was necessary to aid in the recovery of freshwater habitats of listed and declining populations of anadromous salmon and trout (*Oncorhynchus* spp.) and other fish within the range of the northern spotted owl. Since the ROD, a variety of sources, including interested publics, interest groups, scientific review and evaluation groups (e.g., National Research Council 1996, Independent Multidisciplinary Scientific Team 1999), regulatory agencies, and policy- and decision-makers have called for the development of policies and practices to manage the freshwater habitats of at-risk fish at ecosystem and landscape levels.

Our understanding of what constitutes the aquatic ecosystem and the landscape they occupy, particularly with regards to anadromous salmon and trout that are the major focus of ACS, has evolved since the ROD. Ecosystems and landscapes are different entities and therefore, have different management requirements. Ecosystems are vague entities with boundaries that may shift with space and time. Reeves et al. (2002) and Reeves et al. (in press-a) considered the watershed, which was defined as subbasins of 20-200 square miles by FEMAT (1993), to be the boundaries of an aquatic ecosystem. This delineation is consistent with the size criteria and definition of ecosystems of Hunter (1996). A landscape is a mosaic or collection of ecosystems (Hunter 1996) that occupy a relatively large area (2.47×10^5 to 2.47×10^7 acres (Concannon et al. 1999)). From an aquatic perspective, multiple watersheds that are contiguous are considered a landscape (Reeves et al. 2002, Reeves et al. in press-a).

Major paradigms of ecosystem management include (Lugo et al. 1999):

(1) Ecosystems are not steady state but are constantly changing through time.
(2) Ecosystems should be managed from the perspective of resilience, as opposed to stability.
(3) Disturbance is an integral part of any ecosystem and is required to maintain ecosystems.

Ecologists (Holling 1973, White and Picket 1985) and managers recognize the dynamic nature of terrestrial ecosystems and how the associated biota and physical characteristics change through time. They are also aware that range of conditions that an ecosystem experiences is determined to a large extent by the disturbance it encounters (e.g., wildfire, hurricane, timber harvest and associated activities, etc.). Natural disturbances can: (1) increase biological diversity; (2) be crucial for the persistence of some organisms and the habitat that support them; and (3) express and maintain key ecological processes (Turner et al. 1994).

Resilience is the ability of an ecosystem to recover to pre-disturbance conditions following a disturbance (Lugo et al. 1999). An ecosystem demonstrates resilience after a disturbance when the environmental changes caused by the disturbance are within the range of range of conditions that that the system experienced before disturbance (See discussion of range of natural variability that follows). Reduced resilience may include extirpation of some species, increases in species favored by available habitats (Levin 1974, Harrison and Quinn 1989, Hansen and Urban 1992).

The less management actions resemble the natural disturbance regime under which an ecosystem evolved, the less resilient an ecosystem will be. Thus, the obvious challenge for ecosystem management is to make management actions resemble the natural disturbance regime as closely as possible (Lindenmayer and Franklin 2002). Factors that should be considered in developing ecosystem management plans and policies include frequency, magnitude (White and Pickett 1985, Hobbs and Huenneke 1992) and legacy (i.e., the conditions and materials that exist immediately following the disturbance) (Reeves et al. 1995, Lindenmayer and Franklin 2002) of disturbance regimes in managed

ecosystems. The impact on the ecosystem will depend on how closely the management disturbance regime resembles the natural disturbance regime with regard to these factors. Everest and Reeves (in review) reported that they found no evidence in the peer-reviewed literature where fish populations or habitat responded positively to or remained unchanged as a result of the impacts from intensive land management activities.

Landscape management strives to maintain a variety of ecological states in some desired spatial and temporal distribution. To do this, landscape management must consider: (1) the development of a variety of conditions or states in individual ecosystems with the landscape at any point in time; and (2) the pattern resulting from the range of ecological conditions that are present (Gosz et al. 1999). Management should address the dynamics of individual ecosystems, the external factors that influence the ecosystems that compromise the landscape, and the dynamics of the aggregate of ecosystems (Concannon et al. 1999).

To establish a dynamic perspective of ecosystems and landscapes, the range of natural variability (RNV) must be recognized. RNV is the range of conditions that a spatial level of organization experiences naturally over an extended time period, several decades to centuries. It is often used for individual components of an ecosystem, such as number of pieces of large wood or number of pools, or for ecological states. The usual manner for establishing the RNV for a parameter is to measure the parameter in pristine systems (i.e., systems having little of no history of impact from human activities). The RNV is represented by the range of these values. This is well established for terrestrial systems (i.e., early-, mid-, and late-successional) (e.g., Wimberly et al. 2000) but not nearly well or widely recognized for aquatic ecosystems.

Spatial scale is an important, but not well recognized, element of RNV. The RNV is inversely related to spatial scale (Wimberly et al. 2000). The smaller the spatial scale, the larger the RNV and, conversely, the larger the scale the smaller the RNV. Hierarchy theory provides the rationale for this relation and is an appropriate framework for considering ecosystem issues at and between different spatial scales (Overton 1977). Each level within the hierarchy of an ecosystem has unique properties and behaviors that are expressed over time. The properties of lower levels of organization are "averaged, filtered, and smoothed" as they are aggregated at higher levels of organization (O'Neill et al. 1986). Consequently, the range and variability in the properties and conditions of the system are relatively wide at lower levels of organization compared to higher levels (Wimberly et al. 2000). A recent paper on the concept of RNV (Landres et al. 1999) and another estimating RNVs (Keane et al. 2002) did not consider the effect of spatial scales stimulations.

Wimberly et al. (2000) illustrated the RNV of successional vegetative stages in the Oregon Coast Range at the various spatial scales. They estimated (based on a model of fire frequency and intensity and vegetation response over 3000 years) that at the scale of a late successional reserve (100,000 acres) the range in the amount of old growth was from 0 to 100%. For an area roughly the size of a national forest (750,000 acres), the

RNV for old growth was from approximately 10 to 75%. The RNV for the Coast Range (5,600,000 acres) was 30-55%.

The following example can be used to further explain the reason for the relation between RNV and spatial scale. Assume that a person is suspended in a balloon above a given area in the Oregon Coast Range for several decades to centuries and is able to observe the changes in the age of trees, similar to what Wimberly et al. (2000) did with their model. There is a very high likelihood that the sites will be disturbed at some point in time by wildfire, a windstorm, or other infrequent disturbance event. Immediately following the event there will be no older trees; they will have been killed by the event. Assuming that the next large disturbance event will not occur for some time, new trees will grow and eventually the entire area will be covered with old trees. The RNV is 0 to 100% for at this scale.

A different pattern would be observed if the balloon was suspended at a higher altitude and a larger area was observed. The large, infrequent disturbance events generally affect relatively small portions of the landscape at any one time. Thus, it is very unlikely that the entire area being observed would be affected by a disturbance event at the same time. The asynchronous nature of the disturbance events results in a series of patches of vegetation of different ages. This narrows the RNV because of the reduce likelihood of finding the extreme condition of the entire area either had no old growth or all of it was old growth at any point in time. The RNV is further reduced at larger spatial scales because disturbance events are even more desynchronized.

Dynamics and Aquatic Ecosystems

The perspective that aquatic systems are dynamic, particularly at the ecosystem and landscape scale, was not widely recognized at the time that the ACS was developed. Prior to the development of the ACS, there was recognition that biotic (Resh et al. 1988) and physical (Swanson et al. 1988) components of aquatic systems, particularly at the smaller spatial scales, were influenced by relatively frequent events, such as floods. One reason for the absence of the recognition of dynamics of aquatic ecosystems is that the major paradigms that shape our thinking about aquatic systems, such as the River Continuum Concept (Vannote et al. 1980), do not consider time or its influence. Similarly, classification schemes such as that of Rosgen (1994) identify a single set of conditions for a given stream or reach type; no consideration is given as to how these conditions may vary over time. The physical and biological relations were assumed to be fixed in time and to be unchanging. Frissell et al. (1986) describe the hierarchical organization nature and identify a temporal component associated with each level; the finer the scale, the shorter the response period. However, they did not consider how features of a given level in the hierarchy respond over time. A more recent examination of the hierarchical organization of streams by Fausch et al. (2002) also recognized that time is a critical factor to consider when examining aquatic ecosystems. However, they did not integrate it into their description of stream systems. Failure to incorporate time into consideration of aquatic systems, especially at higher levels of organization, has led

to an implied expectation that stream ecosystems experience a limited, if not single, set of conditions and that this condition (or conditions) is relatively stable through time.

The foundation for the focus on ecological processes and dynamics of the ACS came from Naiman et al. (1992). They hypothesized that different parts of a watershed (i.e., headwaters, middle portion, lower portion) had different disturbance regimes, based on frequency and magnitude of disturbance. They also believed that the landscape would have watersheds with range of conditions because of the asynchronous nature of large and infrequent disturbance events, such as wildfire and flooding. Since then a number of studies examined the dynamics of aquatic ecosystems in space and time since the ACS. Reeves et al. (1995) described the range of conditions of watershed in the Tyee sandstones of the central Oregon coast in response to wildfire. They found a range of conditions from less productive to more productive. May (2001) did this for headwater streams in the same region and found a wide variation in conditions within a channel and between channels. Channels that had not been disturbed for several decades were filled with gravel and wood. Recently disturbed channels were devoid of sediment and wood and were scoured to bedrock. Benda and Dunne (1997a,b) and Benda et al. (1998) described a similar distribution of in-channel sediment conditions in watersheds over time. Benda et al. (in press-a) examined the impact of landslides following wildfires on aquatic ecosystems in the Boise River, Idaho. The landslides had significant impacts on the channel, creating complex channels and delivering large amounts of wood to the channel. These conditions are expected to vary widely over time.

The following from Reeves et al. (1995) is a synopsis of the long-term response of aquatic ecosystems to disturbances and an illustration of the concept of the RNV at the watershed scale. Reeves et al. (1995) examined three watersheds in the central Oregon Coast Range that were at different points of time from the last major wildfire and catastrophic hillslope failure. The most recently disturbed watershed (80-100 years since the last major fire and hillslope failure) and the one that had not been disturbed for an extended time (300 years) had the simplest, and least favorable fish, habitat. However, the specific habitat attributes varied between these watersheds. The most recently disturbed watershed had large amount of gravel and a relatively low abundance of large wood. The system that was the furthest from disturbance had just the opposite, little to no gravel and an abundance of large wood. The watershed that was intermediate in time from disturbance (160-180 years) had intermediate levels of gravel and wood and the most favorable conditions for fish. The numbers and diversity of juvenile salmon and trout was greater in this watershed than in the others.

Recent studies examined how that aquatic ecosystems at the site and reach scale respond to landslides and/or floods. Hogan et al. (1998) examined the impacts of landslides from timber harvest activities on streams in the Queen Charlotte Islands, British Columbia. In-channel features changed immediately following the landslide. Upstream of a deposit, pools were lost and smaller sediments accumulated in riffles. Downstream the channel gradient steepened and the amount of gravel declined. Over time, 10-50 years depending on site-specific features and conditions, more complex and diverse conditions for fish developed.

Studies in the Appalachian Mountains of Virginia examined the impacts of floods and landslides. Dolloff et al. (1994) examined changes in biological and habitat conditions in a small stream following flooding associated with Hurricane Hugo. There was no change in the total area of riffles and pools but the total number of habitat units declined and their mean depth decreased. The amount of large wood in the channel doubled. No fish species were lost from the system but the numeric response varied. Some species increased in abundance and others declined.

In Shenandoah National Park, physical and biological features of a stream that experienced flooding and a debris flow varied over five years of study (Roghair et al. 2002). Immediately following the debris flow and flood, the number of pools and riffles and substrate size increased and pool and riffle surface area decreased. Five years later, the total number of pools was at level found before the flood and debris flows and substrate size decreased. The density of brook trout (*Salvelinus fontinalis*) four years after the flood and debris flow exceeded the pre-event level. It declined to pre-event levels in the fifth year.

Several factors influenced the responses of the studies that were just discussed. The physical legacy of the disturbances was important. Wood and sediment are the basic building blocks of fish habitat. These materials were introduced into the streams and allowed for the development of conditions favorable to fish over time. The presence of refugia is an important determinant of how fish respond to disturbances (Sedell et al. 1990). A refugia can be an area that afforded protection to individuals during the disturbance event and is the affected area or it could be a nearby area that was not affected. Refugia provide sources of individual to re-establish populations in affected areas. Additionally, the life history (Dolloff et al. 1994) and habitat requirements (Reeves et al. 1993, Reeves et al. 2002) can influence the immediate and longer-term response of a species to disturbance events.

Implications

Focusing policies for and management of aquatic ecosystems at the landscape scale presents challenges to policy makers, managers, and regulators (Reeves et al. 2002). One major task is to understand how the condition of aquatic ecosystems varies through time at all spatial scales and the ecological, social, and economic implications of this variation. Currently, the natural range of the condition of aquatic ecosystems is assumed to be small and to generally be good with regards to habitat. This condition is expected to be relatively constant through time and to be present on all systems at the same time. Assuming that this expectation can simply be applied to higher spatial levels is at least partially responsible for the current misunderstanding about the ACS. Focusing on the landscape requires an understanding that conditions in aquatic systems vary over time at each spatial scale. It also requires that appropriate goals and objectives be established for the landscape. In the case of aquatic ecosystems and watershed, this will require identifying what is the appropriate fraction of the watershed that should be in "good" condition at any point in time. Also, it requires the articulation of policies that recognize

the dynamic nature of aquatic ecosystems and describe practices that allow the systems to express a range of desired conditions over time.

The dynamic view of aquatic ecosystems and landscapes described in the previous paragraph is not uniformly held or recognized in the scientific community. Montgomery et al. (2003) questioned the role that dynamics plays in unmanaged situations. They contend that the role of disturbances such as debris flows in old-growth forests is limited. They believed that models of disturbance ecology for salmonids, such as that presented by Reeves et al. (1995), need to recognize differences in the disturbance dynamics of old growth and industrial forests. This is necessary to "provide credible avenues for determining risk associated with land management in steep forested terrain" (Montgomery et al. 2003 p. 87). They felt that "management recommendations based on evolutionary interpretations that are themselves based on a disturbance model primarily applicable to industrial forests may prove misleading" (Montgomery et al. 2003 p. 87).

It is imperative that the spatial scale be specified when RNV and cumulative effects are discussed or evaluated. At small scales the RNV is very large. Consequently, it could be argued that there would be no cumulative effects resulting from management actions, except from the most extreme impacts. Most assessments of the impacts of human activities are made at relatively small scales. Failure to recognize the relation between space and RNV undoubtedly contributed to the current confusion about the ACS and the scales at which it is applied and how compliance is measure.

Also, understanding the relation between different spatial scales is necessary to successfully assess the effects of management policies and activities aquatic ecosystems in the future. The failure to articulate or to recognize this relation contributes to the often intense and divisive debate about management policies and practices and impedes the development of viable options for managing aquatic ecosystems. Shifting the focus to landscape levels will require recognition of the principles about hierarchy theory and the relation among levels of organization if future management and assessment policies are to be successful.

Headwater streams

The establishment of Riparian Reserve was one of the cornerstones of the ACS. The Riparian Reserve network included fish-bearing streams, which had been the focus of management of aquatic ecosystems prior to FEMAT, as well as small, fishless headwater streams. The latter generally comprise the vast majority of the stream network (Gomi et al. 2002). Prior to the ACS these were not widely recognized as part of the aquatic ecosystem. Knowledge and recognition of the ecological importance of headwater streams has increased since the ACS was first articulated. They are sources of sediment (Benda and Cundy 1997a,b, Zimmerman and Church 2001) and wood (Reeves et al. in press-b) for fish bearing streams. They provide habitat for several species of native amphibians (Kelsey and West 1998) and macroinvertebrates (Meyer and Wallace 2001) (including recently discovered species (Dieterich and Anderson 2000)) and may be

important sources of food for fish (Wipfli and Gregovich 2002). Small streams are also storage and processing sites of nutrients and organic matter, which are important components of the energy base for organisms used by fish for food (Wallace et al. 1995, Webster et al. 1999, Kiffney et al. 2002, Wipfli and Gregovich 2002).

Headwater streams are among the most dynamic portions of the aquatic ecosystems (Naiman et al. 1992). Tributary junctions between headwater streams and larger channels are important nodes for regulating material flows in a watershed (Gomi et al. 2002) and are the locations where site level impacts from management activities are often observed. These locations have unique hydrologic, geomorphic, and biological attributes. The movement of sediment, wood, and other materials through these locations result in sites of high biodiversity (Minshall et al. 1985, Johnson et al. 1995). Habitat in these sites may also range from simple to complex depending on time from the disturbance (e.g., landslides and debris flows) and the types and amount of materials delivered to the channel.

Large wood is an important element of stream and river ecosystems. It forms and influences the size and frequency of habitat units for fish and other aquatic and riparian-dependent organisms (Bilby and Ward 1989, Wallace et al. 1995, Bilby and Bisson 1998). The size pieces and amount of wood in the channel also influences the abundance, biomass, and movement of fish (Murphy et al. 1985, Fausch and Northcote 1992, Harvey and Nakamoto 1998 Harvey et al. 1999, Roni and Quinn 2001).

Wood enters streams via chronic and episodic processes (Bisson et al. 1987). Chronic processes, such as tree mortality and bank undercutting (Grette 1985, Murphy and Koski 1989, Bilby and Bisson 1998), generally introduce single pieces or relatively small numbers of trees at frequent time intervals. Episodic processes usually add large amounts of wood to streams in large but infrequent events such as wind throw (Harmon et al. 1986), wildfire (Agee 1993), severe floods, and landslides and debris flows (Keller and Swanson 1979, May 2002, Reeves et al. in review).

Examinations of wood sources in streams (e.g., Murphy and Koski 1989, McDade et al. 1990, Robison and Beschta 1990) have focused on chronic input from immediately adjacent riparian zone. Such studies found that the vast majority of wood found in streams was derived from within a distance equal to the height of streamside trees. These and other studies (e.g., Van Sickle and Gregory 1990) either did not consider episodic sources of wood or found that they were only a small proportion of the total input (Murphy and Koski 1989).

In steep terrain, which is found on much of the area covered by the Northwest Forest Plan, landslides and debris flows are potentially important mechanisms for delivering sediment and wood from hillslopes and small headwater channels to valley-bottom streams. Reeves et al. (in press-b) found that an estimated 65% of the number of pieces and 46% of the total volume of wood in a pristine watershed in coastal Oregon came from outside the riparian zone immediately adjacent to the fish-bearing stream. Over 80% of the total number of pieces of wood in a western Washington (Benda et al. in

review) and northern California stream (Benda et al. in press-b) were from upslope sources. Other studies, such as May (2002) and Benda et al. (in press-a), found large amounts of wood from upslope sources in streams in the Oregon Coast Range and Idaho, respectively.

Pieces of large wood delivered from upslope areas are generally smaller than those originating from the riparian zones along fish-bearing streams. Reeves et al. (in review) found that the mean volume of a piece of large wood from upslope areas was one third the mean size of pieces from stream adjacent riparian areas in a coastal Oregon stream. Differences in mean size is likely attributable to fire history and other stand-resetting events. Hillslopes are more susceptible to fire and burn more frequently than streamside riparian zones (Agee 1993). Thus, trees in the streamside riparian zone may be disturbed less frequently and achieve larger sizes than upslope trees.

Geomorphic features of a watershed influence the potential contribution of upslope wood sources. Steeper, more highly dissected watersheds will likely have a greater proportion of wood coming from upslope sources than will watersheds with lower gradients. Murphy and Koski (1989) and Martin and Benda (2001) found that upslope sources of wood comprised a relatively small proportion of the wood in streams that they examined in Alaska. The watershed studied by Martin and Benda (2001) had a wide valley floor so wood was deposited along valley floors, away from the main channel. In contrast, Benda et al. (in press-a) found that wood delivered in landslides following wildfires was deposited in wide valley reaches in the Boise River, Idaho. In a central Oregon coast stream, Reeves et al. (in press) found that the amount of upslope-derived wood was greatest in reaches with narrow valley floors.

Even in watersheds where the potential contribution from upslope sources of wood is high, the ability of individual upslope sources of wood to fish-bearing streams can vary widely. Benda and Cundy (1990) identified the features of first and second order channels with the greatest potential to deliver materials to fish-bearing streams in the central Oregon coast. The primary features were gradients of 8-10% with tributary junction angles of $<45^{\circ}$. These features can be identified from Digital Elevation Models (DEMs) and topographic maps.

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